2824 (OR-027) P

Dear Interested Party:

In accordance with the National Environmental Policy Act, the Bureau of Land Management (BLM) has prepared the attached Record of Decision (ROD) for the North Steens Ecosystem Restoration Project (North Steens Project).

The Project Area lies within the Andrews Management Unit and the Steens Mountain Cooperative Management and Protection Area in Harney County, Oregon, affecting approximately 336,000 acres of public and private lands. The North Steens Project is a landscape-level project utilizing a combination of western juniper treatments (mechanical and nonmechanical methods) and wildland (prescribed and natural) fire to treat fuels and restore sagebrush/steppe habitat. Implementation of the project will reduce the adverse influence of western juniper in mountain big sagebrush, low sagebrush, quaking aspen, mountain mahogany, old-growth juniper (over 120 years old), and riparian plant communities.

The Final Environmental Impact Statement (FEIS) evaluated six alternative management approaches including a No Action Alternative. The BLM has selected the Preferred Alternative as proposed and analyzed in the FEIS. The Preferred Alternative consists of features extracted from two of the action alternatives: 1) The Full Treatment Alternative will be implemented in all portions of the Project Area including Wilderness Study Areas, but excluding Steens Mountain Wilderness; and 2) The Continuation of Current Management Alternative was selected for Steens Mountain Wilderness. Future proposals in Steens Mountain Wilderness will be in conformance with the Steens Mountain Cooperative Management and Protection Act of 2000 and the Wilderness Act and potential effects analyzed in additional documents.

A 30-day appeal opportunity for this decision is now being provided. Appeals must be postmarked by October 29, 2007. Please review the ROD carefully for a detailed explanation of the appeal process.

Additional hard copies of the ROD may be obtained at the address above. The document is also available on the internet at http://www.blm.gov/or/districts/burns/plans/index.php.

We appreciate your help in this effort and look forward to your continued participation as the project is implemented. For additional information or clarification regarding the enclosed document, please contact Douglas Linn or Rhonda Karges at (541) 573-4400.

Sincerely,

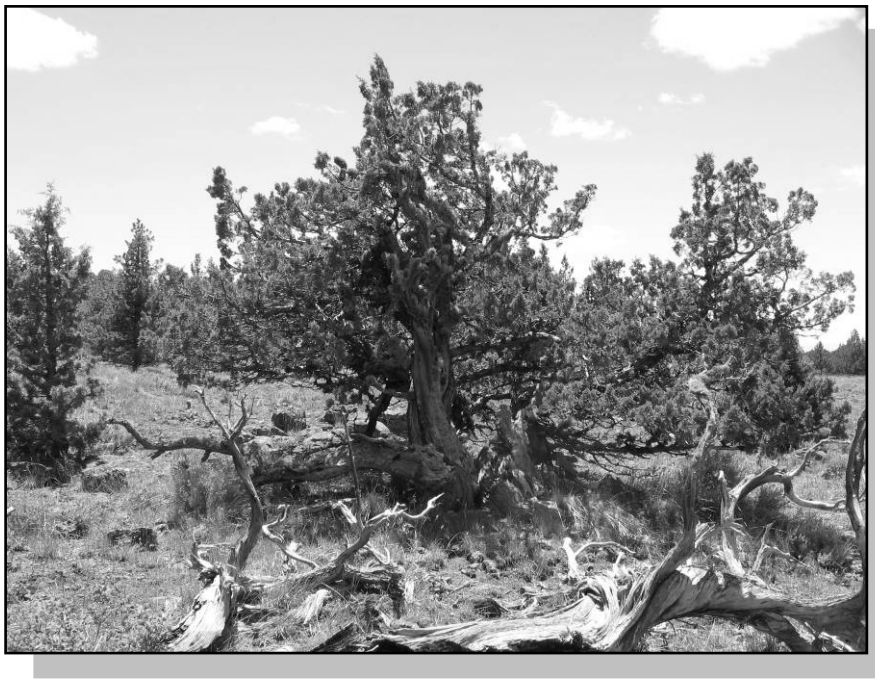
/signature on file/

Dana R. Shuford
District Manager

Enclosure

North Steens Ecosystem Restoration Project

Record of Decision



BLM

Burns District Office

September 2007

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Cover Photo by Douglas Linn

North Steens Ecosystem Restoration Project
Record of Decision

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ACRONYMS/ABBREVIATIONS

Reader note: *Please refer to the list below for acronyms and abbreviations that may be used in this document.*

ACRONYM/ABBREVIATION	DEFINITION
Andrews/Steens	Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area
AMU	Andrews Management Unit/Andrews Resource Area outside of the CMPA
ATV	All Terrain Vehicle
BLM	Bureau of Land Management
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMPA	Cooperative Management and Protection Area
DEIS	Draft Environmental Impact Statement
DEQ	Oregon Department of Environmental Quality
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
GIS	Geographic Information System
GPS	Global Positioning System
ID	Interdisciplinary
MDA	Minimum Decision Analysis
NEPA	National Environmental Policy Act
North Steens Project or Project	North Steens Ecosystem Restoration Project
ODFW	Oregon Department of Fish and Wildlife
PDE	Project Design Element
PRMP	Proposed Resource Management Plan
RA	Resource Area
RMP	Resource Management Plan
ROD	Record of Decision
S&G	Standards for Rangeland Health and Guidelines
SMAC	Steens Mountain Advisory Council
Steens Act	Steens Mountain Cooperative Management and Protection Act of 2000
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WJMA	Wildlands Juniper Management Area
WSA	Wilderness Study Area
WSR	Wild and Scenic River

Record of Decision

Summary

The North Steens Ecosystem Restoration Project (North Steens Project or Project) is a landscape-level project, the goal of which is to reduce juniper related fuel loading and improve the ecological health of the area by encouraging a healthy functioning ecosystem through appropriate land treatments. Treatment techniques will include a combination of prescribed fire, juniper treatments, fencing, seeding, and planting to reduce fuel loads, restore vegetative communities, improve habitat and increase forage. Both wildlife and domestic livestock operations will ultimately benefit. The project will include implementation of management actions across the Project Area directing plant communities toward a desirable condition through return of the historic fire regime. Actions will center on lessening effects of potential severe wildfires by reducing fuels and curtailing juniper expansion in mountain big sagebrush, low sagebrush, quaking aspen, mountain mahogany, old-growth juniper, riparian plant communities, and limited acres of Wyoming big sagebrush. This is a multiyear project potentially taking place over decades and each year the extent of implementation will differ depending on variables such as staff limitations, resource considerations and climatic and operational conditions.

The Project Area is located within the Andrews Resource Area (RA) primarily within the Steens Mountain Cooperative Management and Protection Area (CMPA). The CMPA was established by the Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) and contains 496,136 acres of combined private and public lands. The Steens Act clearly states in Section 113(c), "JUNIPER MANAGEMENT," direction for the Bureau of Land Management (BLM) to actively manage juniper. Project activities will primarily occur above 4,500 feet and below 7,200 feet, concentrating on the "juniper belt." Techniques used will depend on site-specific objectives and project constraints.

The Project Area is approximately 336,000 acres and is a complex of private land and public land administered by the BLM. Coordination with private landowners is directed by the Steens Act (Section 121) and is essential for achievement of project objectives. Sideboards for coordination and cooperation will be established prior to project implementation, and when possible, these efforts will establish treatment units based on geographic and vegetative features rather than ownership lines. Private landowner cooperation is strictly voluntary and all management activities on private land will be conducted in accordance with landowner management objectives.

The Burns District will work cooperatively with local U.S. Department of Agricultural Research Service and other University researchers to establish research and monitoring plots. The goal is to document the ecosystem response to management actions and use that information to modify future activities if necessary.

Decision

The BLM selected the Preferred Alternative comprised of the following three elements: 1. The Full Treatment Alternative will be implemented in all portions of the Project Area including Wilderness Study Areas (WSA), but excluding Steens Mountain Wilderness; 2. The Continuation of Current Management Alternative is selected for Steens Mountain Wilderness; and 3. Future proposals in Steens Mountain Wilderness will be in conformance with the Steens Act and Wilderness Act (see Map 1: Preferred Alternative).

Juniper management through fuels reduction on a landscape level will occur on private and public lands including WSAs. Management of natural and prescribed fires will occur in all areas except Steens Mountain Wilderness where only natural fires will occur unless further National Environmental Policy Act (NEPA) analysis is completed. Private lands will be subject to fire management (prescribed and natural ignitions) in accordance with private landowner management objectives. Wildfires originating on private lands that threaten or move onto Federally-administered lands may be suppressed based on current policy unless cooperative agreements are in place. Coordination of prescribed fire management efforts between public land managers and

private landowners will occur.

During the life of the Project, native, shrub-dominated plant communities will be restored where fire is capable of operating as an ecosystem process. Approximately 45-65% of identified upland communities outside Steens Mountain Wilderness will be burned (black area) to create a mosaic of seral stages. Six percent of the Project Area will potentially be treated each implementation season affecting 20,000 upland acres per year. This target is subject to multiple constraints including operational. Approximately 130,387 - 188,336 acres of sagebrush (52,426 - 103,587 acres of early transition juniper/sagebrush sites; 77,961 - 84,749 acres of mid- to late-seral stage juniper affected sagebrush; and 73,854 - 81,396 acres of juniper dominated sites) will be treated over the life of the Project.

Pre-burning treatment methods selected for implementation in WSAs will be the minimum analyzed methods required to achieve project objectives. The Project Implementation Lead, fuels specialists and ID Team members (including a WSA specialist) will recommend the minimum pretreatment method to the Field Manager who will determine which method is most appropriate for that particular project unit or portion thereof.

Important Features:

1. All implementation timelines for project completion are dependent upon funding and operational constraints.
2. Seeding is not proposed in WSAs; however, in the event of a stand-replacing fire, where there is no reasonable expectation of natural healing, the area may be seeded with native species following Andrews Management Unit (AMU) and CMPA Resource Management Plans (RMP) and Steens Act direction.
3. Treatments in WSAs will be considered in the following order:
   - Treatments in high priority areas such as mid- to late-transition juniper encroachment sites, aspen, low sage, and riparian areas could initially include use of other analyzed tools.
   - Prescribed fire treatment will be used.
   - Prescribed fire treatment involving temporary vehicle uses that do not create undue or unnecessary surface disturbance will be employed.
   - During the 3- to 5-year interval project review, additional methods, including temporary use of motor vehicles cross-country and juniper cutting or other mechanical treatment could be considered if wildland fire use and prescribed fire treatment did not achieve objectives. Unnecessary and undue degradation will be avoided.

Specific Project Design Elements:

1. Treatments outside of wilderness or WSR corridors:
   - All available treatment methods will be utilized in these areas to achieve resource objectives.
2. Treatments in the Riddle Brothers Ranch Historic District (Ranch Project Unit):
   - Treatments in this project unit will include preventative measures and may include treatment of the WSR corridor. The WSR corridor treatments will be for fuels management, natural habitat restoration, and historical preservation.

Continuation of Current Management for Steens Mountain Wilderness

Current management activities will continue and recognizes juniper treatments in Steens Mountain Wilderness will continue to occur on a smaller scale. Site-specific treatments in Steens Mountain Wilderness will require appropriate NEPA analysis. A Minimum Decision Analysis (MDA) will also be completed and documented on a Minimum Requirement Decision Guide worksheet.

Naturally-ignited fires will be managed in accordance with AMU and CMPA RMPs and Fire Management

Plan guidance. Not all fires will be suppressed. Some wildfires will be managed for resource benefits. Factors to be considered include, but are not limited to, threats to human life, fire behavior, potential final fire size, concurrent incidents, available equipment and qualified personnel, and proximity to private lands.

Detailed Activity Description

Prescribed Burning

Prescribed burning will be used to varying degrees in most resource treatments. Treatments will include activities such as jackpot burning, broadcast burning, piling (machine or hand) and burning, and single-tree burning.

Burning prescriptions will vary depending on specific objectives and will allow adequate fire behavior to reduce the stocking of fully and partially developed juniper woodlands, and reduce size classes of dead and downed fuel within previously cut juniper control units and cut/piled units. Piling and burning and single-tree burning will occur in areas where jackpot burning and broadcast burning will not meet resource objectives. This might include areas where fire-sensitive assets such as range improvements, greater sage-grouse leks or cultural resources occur. This treatment may also be used to improve the effectiveness of holding actions near a unit or property boundary.

Tools such as drip torches, fusees, All-Terrain Vehicle (ATV) ignition, aerial ignition, and other firing devices are typically used to ignite prescribed burns. Broadcast burns are generally implemented in the fall (September, October) to moderate undesirable fire behavior. Roads, natural barriers, and mechanically-constructed fire lines may be utilized as fire breaks at the boundaries of burning units. Two-track, 4-wheel drive roads positioned along burn unit boundaries may be bladed to improve their ability to function as a control line. Broadcast burning operations will be monitored to ensure Project Design Elements (PDE) are properly observed and resource objectives are being achieved. Once resource objectives are attained within targeted vegetation communities, no remaining acres within that community type will be treated by broadcast burning within the burn units. All burn plans will include an escaped fire suppression plan and a smoke management plan. Prior to beginning operations requiring any fuel tanks or fuel handling at the site a spill contingency plan will be developed and submitted to the authorized officer.

Jackpot Burning

Jackpot burning is the application of prescribed fire to concentrations of woody fuels typically during the time of year when the probability of fire spread is very low (in the late fall through early spring when soil moisture is high or the ground is frozen). Jackpot burning is the method used in units where fuel loads are discontinuous or the ability of fire to spread is low. Jackpot burning may also be applied in areas where natural fuel concentrations exist in isolated areas. This method will burn fine fuels, limit the ability of fire to spread, and prevent soil sterilization from excessive heat. It is conducive to maintaining the shrub component on the site and the herbaceous plant species growing under the downed junipers.

Jackpot burning will be a principal activity throughout sagebrush-bunchgrass dominated plant communities where prescribed broadcast burning is not applicable. It may also be utilized within units of previously cut juniper that exist in limited portions of the Project Area or as preparation for holding a broadcast burn.

Broadcast Burning

Broadcast burning is the controlled application of fire to wildland fuels within a predetermined area during specific environmental conditions in order to attain resource management and fuels reduction objectives. Broadcast burning will be another form of prescribed fire applied.

Portions of shrubland communities in middle to late juniper woodland transitional stages will require mechanical pretreatment to create ladder fuels allowing fire to spread. Individual trees will be periodically felled against standing trees and allowed to cure; creating a ladder allowing ground fire to move into canopies of standing uncut trees. Sites not supporting large trees typical of communities in earlier stages of juniper woodland development will not require mechanical treatment prior to application of prescribed fire. Other pretreatment activities that may occur within or near broadcast burn units include wetlining,

blacklining, jackpot burning, and handline construction around interior leave islands and fire-sensitive assets such as range improvements or cultural resources or to decrease heat from the broadcast burn in some communities. Holding operations near property boundaries may be accomplished with pretreatment using small amounts of jackpot burning, juniper cutting, and piling and burning.

Scheduling of burning is dependent upon resource objectives, weather, fuel conditions, project funding, and arrangements with grazing permittees and other private property owners. These factors, especially weather, make it difficult to accurately project number of acres burned in a given year. Broadcast burning operations require one growing season of rest from livestock grazing prior to treatment and at least two growing seasons of rest following treatment. The duration of the rest period will be determined by the Field Manager based on rangeland monitoring by a BLM ID Team of plant community response.

Pile Burning

Mechanical piling and hand piling will be used to reduce fuel loading and continuity in previously cut juniper units. However, these actions may also occur in other areas. Machine piles are usually 12 feet tall by 16 to 22 feet wide and are constructed by grapple equipped excavators or dozers. Piling will take place when the ground is frozen or during dry soil conditions. Piles will be burned within 2 years of construction during late fall, winter, or spring, preferably when the ground is frozen or wet. A mixture of native and nonnative grasses, forbs, and shrub species will be seeded at these piles following burning.

Single-Tree Burning

Single-tree burning involves ignition of individual trees with backpack flame throwers, terra torches, torches mounted to vehicles or ATVs, or other firing devices. In this treatment, juniper trees less than 8 feet tall or basally sprouting multi-stemmed trees will be burned individually to prevent recovery from manual or mechanical cutting. Only torching of individual trees will occur under this treatment to prevent fire movement from crown to crown. Single-tree burning will be an activity employed primarily in low sagebrush-bunchgrass communities. Single-tree burning will have limited application and will be implemented on a relatively infrequent basis.

Wildland Fire Use

Wildland Fire Use (Fire Use) is management of naturally-ignited wildland fire to accomplish resource management objectives. There are three primary objectives for allowing wildland fire use:

- Provide for health and safety of firefighters and the public.
- Maintain natural ecosystems of a given area and allow fire to play its natural role in those ecosystems.
- Reduce risks and consequences of unwanted fire.

Other factors considered include the necessity of emergency stabilization and rehabilitation actions, number and complexity of concurrent fire incidents, potential for additional fire events, and availability of personnel to manage the wildland fire use incident. Wildland fire use incidents are not eligible for emergency stabilization or rehabilitation action. Implementation of wildland fire use strategies implies resources within the fire perimeter will benefit from fire. Post-fire seeding, shrub planting, and facility repair will not be approved under the Emergency Stabilization and Rehabilitation program of the BLM. Actions to restore plant communities and wildlife habitat and repair destroyed or damaged facilities must be funded from other sources. Only areas where post-fire, native perennial plant response meets management objectives will be considered for wildland fire use. Areas dominated by introduced annual plants or have potential to be dominated by introduced annual plants following a fire will not be considered for wildland fire use. However, as areas dominated by annual plants are rehabilitated, they will be included in areas for wildland fire use.

Juniper Cutting – Fall and Leave (No burning)

In some situations, juniper will be felled and left on site. There will be no follow-up burning when this treatment is applied. This treatment will only be applied where risks associated with increasing hazardous fuels are considered to be low (determined on a site-specific basis), such as in low sagebrush communities in early stages of transition to juniper woodland or as a strategy to reduce juniper encroachment within

stands of mountain mahogany, bitterbrush, aspen and riparian communities.

Potential Treatment Methods

Ignition methods for prescribed fire may include drip torches, aerial ignition techniques, and use of hand held and vehicle mounted (where appropriate) ignition devices.

1. Broadcast burning – Prescribed fire is utilized through an entire area identified in the burn plan using a prescription designed to achieve specific habitat and fuel loading objectives.
2. Jackpot and pile burning – Accumulations of fuels are burned while other vegetation remains unburned. This method will be implemented in the late fall, winter, or early spring when the potential for fire spread is low. Fuels could be piled by hand or machine.
3. Individual tree burning –This includes prescribed fire implemented using an ignition device (flamethrower or terra-torch).
4. Fencing (permanent and temporary) – Areas could be fenced where response of vegetation (following treatment) could be slowed by grazing and browsing. Ideally, all temporary fencing will be removed within one season after vegetative recovery objectives have been met. Permanent fencing may be used to change grazing patterns following treatment as determined necessary.
5. Reseeding (crested wheatgrass) – Maintenance seeding with crested wheatgrass could be utilized in existing crested wheatgrass seedings to provide additional forage or to accomplish other project objectives. There are very few acres of existing crested wheatgrass seedings in the Project Area.
6. Reseeding (native species / nonnative species) – Selected treated areas could be seeded with native seeds in addition to nonnatives to accomplish project objectives and offset potential temporary loss of plant species from sections of project units.
7. Planting – Areas could be planted with native species including riparian woody species.
8. Total juniper reduction (cutting and piling) - The treatment consists of cutting all expansion juniper within portions of a project unit. Juniper will be cut and piled prior to follow-up treatments; this could be accomplished by nonmotorized or motorized means.
9. Commercial use of cut expansion juniper - Downed expansion juniper could be collected for firewood, ornamental use, or other uses. Section 113(b) (2) of the Steens Act allows for the removal of legally downed juniper in the CMPA outside of wilderness and WSAs.
10. Selective juniper reduction (cutting and piling) - Treatments could vary from cutting every third tree in juniper pockets to limbing and girdling expansion juniper found in dense stands. Juniper could be cut and piled prior to follow-up treatments; this could be accomplished by nonmotorized or motorized means.
    - Every third tree cutting involves felling trees into juniper pockets to provide ladder fuels for remaining junipers. This method has worked well in areas with moderately dense juniper, steep slopes, and remnant ground fuels to carry fire between juniper pockets. In areas of moderate slopes this technique may be limited as fire needs more ladder fuels and a mechanism such as high or up-slope winds to carry fire through surrounding tree canopies.
    - Droop cutting involves cutting lower limbs of expansion juniper so they droop to the ground. Limbs are not severed from the tree bole; instead they are cut three-fourths through from the top down. This method results in ladder fuels still attached to the base of standing trees. As fire carries through juniper stands, dead limbs ignite and carry fire into the tree canopy. This technique is limited by topography and fuel conditions required to carry fire between juniper pockets. Advantages to this technique include a minimized cutting time to treat stands of juniper, and the majority of fuels is left in a vertical arrangement above ground surface thereby reducing heat effects to soils and other resources (primarily cultural). A further advantage is the post-treatment Project Area resembles the result of a wildfire.
    - The limb and girdle method involves scoring and cutting limbs around the base of the juniper as well as cutting through the cambium layer. This technique results in dead material at the base of juniper trees providing a receptive fuel bed for fire, while increasing chances of killing the trees. The limb and girdle method works well in dense stands of juniper with little to no understory to carry fire. As with droop cutting, the limb and girdle method results in juniper remaining upright which keeps the majority of the fuels away from fragile soils and mimics the lower intensity of a

wildfire event.

11. Combination treatments - Any or all treatment methods.
12. Adaptive Management Treatments – Should other technology or treatment methods become available that meet project objectives and have fewer impacts than those analyzed, they may be used.

Summary of Actions

Habitat Type	Management	Actions
Aspen	• Reduce Fuel Loading • Restore Aspen Stands	• Prescribed Fire • Temporary Fencing • Fire Use • Juniper Cutting*
Mountain Mahogany	• Reduce Fuel Loading • Restore Mountain Mahogany	• Temporary Fencing • Fire Use • Juniper Cutting*
Sagebrush	• Reduce Fuel Loading • Restore Sagebrush Habitat	• Prescribed Fire • Fire Use • Permanent Fencing • Temporary Fencing • Juniper Cutting* • Planting / Seeding
Riparian	• Reduce Fuel Loading • Restore Riparian / Wetlands	• Prescribed Fire • Fire Use • Temporary Fencing • Juniper Cutting* • Planting / Seeding
Old-Growth Juniper	• Reduce Fuel Loading • Maintain / Improve Old-Growth Juniper Woodlands	• Juniper Cutting* • Fire Use
All	• Reduce Fuel Loading • Preserve Wilderness Values Within WSAs	• Juniper Cutting* • Use of Nonmotorized Transport • Use of Nonmechanized Equipment • Use of Mechanized or Motorized Equipment • Wildland Fire Use • Prescribed Fire • Temporary Fencing
All	• Reduce Fuel Loading • Enhance Wilderness and WSR Corridors	• Juniper Cutting* • Use of Nonmotorized Transport • Use of Nonmechanized Equipment • Use of Mechanized or Motorized Equipment • Wildland Fire Use • Prescribed Fire • Temporary Fencing
All	• Reduce Fuel Loading • Commercial Use of Cut Juniper	• Removal of cut juniper**

* All references to "juniper cutting" refer to the reduction of expansion juniper.

** Section 113(b) (2) of the Steens Act authorizes removal of cut juniper for commercial use. This use applies only to areas outside wilderness and WSAs within the CMPA.

Cooperative Efforts

Opportunity exists for cooperators and volunteers to participate directly in fire operations. However, cooperators and volunteers must meet all agency training and physical standards for the appropriate position (NWCG 2006). Minimum standards (class numbers are shown) for Firefighter Type 2 (FFT2) are:

- Person must be at least 18 years old
- Introduction to Incident Command System (ICS) – I100
- Human Factors on the Fireline – L180
- Introduction to Wildland Fire Behavior – S190
- Firefighting Training – S130
- Annual Fireline Safety Refresher – RT130
- Arduous Physical Fitness Level – Duties involve fieldwork requiring physical performance calling for above-average endurance and superior conditioning. These duties may include an occasional demand for extraordinarily strenuous activities in emergencies under adverse environmental conditions and over extended periods of time. Requirements include running, walking, climbing, jumping, twisting, bending and lifting more than 50 pounds; the pace of work typically is set by the emergency situation. Fitness level is assessed through a pack test - 45 pound pack carried for 3 miles in 45 minutes. Individuals must also pass medical screening.
- Persons at FFT2 level must work under the direct supervision of a more experienced firefighter

Communication with Cooperating Agencies will continue throughout the life of the Project.

Appeal Procedures

This decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of the Secretary, in accordance with regulations contained in 43 Code of Federal Regulations (CFR), Part 4 and Form 1842-1. If an appeal is filed, your notice of appeal should be mailed to the Burns District Office, 28910 Highway 20 West, Hines, Oregon 97738, and postmarked by October 29, 2007. The appellant has the burden of showing the decision appealed is in error.

A copy of the appeal, statement of reasons, and all other supporting documents should also be sent to the Regional Solicitor, Pacific Northwest Region, U.S. Department of the Interior, 500 NE Multnomah Street, Suite 607, Portland, Oregon 97232. If the notice of appeal did not include a statement of reasons for the appeal, it must be sent to the Interior Board of Land Appeals, Office of Hearings and Appeals, 801 North Quincy Street, Arlington, Virginia 22203. It is suggested appeals be sent certified mail, return receipt requested.

Request for Stay

Should you wish to file a motion for stay pending the outcome of an appeal of this decision, you must show sufficient justification based on the following standards under 43 CFR 4.21:

- The relative harm to the parties if the stay is granted or denied.
- The likelihood of the appellant's success on the merits.
- The likelihood of immediate and irreparable harm if the stay is not granted.
- Whether or not the public interest favors granting the stay.

As noted above, the motion for stay must be filed in the office of the authorized officer.

Overview of the Alternatives

Alternatives Analyzed in Detail

The Final Environmental Impact Statement (EIS) evaluated six alternative management approaches including a No Action Alternative (Continuation of Current Management). The following is a description of the alternatives considered in the North Steens Project Final EIS (FEIS).

The No Treatment Alternative did not propose any fuels reduction through juniper treatments. This alternative was not consistent with the AMU RMP or CMPA RMP direction. This alternative did not meet the objectives of the North Steens Project but was analyzed for purposes of effect analysis and comparison. Under this alternative expansion juniper will not be managed in the North Steens Project Area. Wildfires will still occur in the Project Area and will be managed in a manner consistent with the RMPs and the BLM Burns District Fire Management Plan.

In the Partial Treatment Alternative BLM proposed to utilize only naturally-ignited (lightning), wildland fire to manage juniper in wilderness and WSAs. Additional treatment methods are available outside of these areas, but rates and scale of treatments within the larger Project Area are expected to be slower.

In the Limited Treatment Alternative BLM proposed to add the use of prescribed fire to wilderness and WSAs. Additional treatments methods are available outside of these areas, but rates and scale of treatments within the larger Project Area are expected to be slower than the Full Treatment Alternative, but faster than the Partial Treatment Alternative.

In the Full Treatment Alternative BLM proposed to use juniper cutting treatments prior to the use of prescribed fire in wilderness and WSAs. The rates and scale of treatments and the extent of the treatments will be the greatest in all portions of the Project Area under this alternative.

The Continuation of Current Management Alternative (No Action Alternative) proposed no action in the Project Area, but allowed current scale projects to be proposed under other documentation.

The Preferred Alternative is comprised of the following three elements: 1. The Full Treatment Alternative will be implemented in all portions of the Project Area including WSAs, but excluding Steens Mountain Wilderness; 2. The Continuation of Current Management Alternative will be selected for Steens Mountain Wilderness; and 3. Future proposals in Steens Mountain Wilderness will be in conformance with the Steens Act and Wilderness Act.

Environmentally Preferable Alternative

An Environmentally Preferable Alternative is judged using the criteria in the NEPA and subsequent guidance by the Council on Environmental Quality (CEQ), 1981. The CEQ has defined the environmentally preferable alternative as the alternative that will promote the National environmental policy as expressed in Section 101 of NEPA. This section lists six broad policy goals for all Federal plans, programs, and policies as follows:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- Preserve important historic, cultural, and natural aspects of our National heritage, and maintain, whenever possible, an environment which supports diversity and variety of individual choice;
- Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Based on these criteria, identification of the most environmentally preferable alternative involves a balancing of current and potential resource uses with that of resource protection, and the Preferred Alternative best fulfills that role. Therefore, the BLM finds the Preferred Alternative best meets the

definition of the environmentally preferable alternative as it minimizes impacts through project design and compensates for changes to natural systems by redirecting the systems towards the conditions under which native species evolved.

Alternatives and Issues Considered but Eliminated from Detailed Analysis

Rapid Treatment Alternative

The Rapid Treatment Alternative proposed aggressively treating significantly larger portions of the landscape each year, and higher percentages of individual burn units. This alternative was determined to be unachievable for a number of reasons. It is not a practical objective to burn high percentages (e.g., 80-90 percent) of an identified burn unit with prescribed fire. Prescribed fire specialists maintain it is not usually possible to burn such a high percent of any given burn unit due to the presence of fire-resistant landscapes or vegetation. Other resource specialists opposed detailed consideration of this alternative due to likely large-scale, wildlife habitat modification and inadequate recovery intervals.

A specific wildlife concern is sage-grouse habitat which is to be managed in consideration of the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon* (August 2005). Rapid treatment of large acreages of sagebrush habitat will not be in conformance with the aforementioned strategy. Additional concerns are the considerable potential for simultaneous disruption to multiple private operations in the Project Area. Offsite forage could be difficult to obtain as treated areas may be rested from grazing during site-recovery periods. Seasons of rest in treated areas of public lands will occur over large areas involving multiple allotments simultaneously and could be very disruptive to private operations.

Removal of Grazing Alternative:

The North Steens Project is a landscape-level project to reduce juniper related fuel loading, thereby, improving the ecological health within the Project Area while maintaining appropriate land uses. A Removal of Grazing Alternative in conjunction with juniper cutting and various forms of prescribed fire was considered but eliminated from detailed analysis. While the Removal of Grazing Alternative was considered, restructuring of planning area level grazing management does not address project objectives, and was not proposed or analyzed as part of the Project. Adopting a removal of grazing management regime in the Project Area will not conform to direction in, or meet objectives of, the Steens Act which states as one of its purposes: "To promote viable and sustainable grazing and recreation programs on private and public lands."[(Section 1 (b) (11)].The Act also declares one of the purposes of the CMPA is "to promote grazing, recreation, historic, and other uses that are sustainable…." [(Section 102 (b) (2)].

In addition, the North Steens EIS tiers to, and incorporates by reference, resource descriptions, management actions and effects analyses contained within the Andrews Management Unit/Steens Mountain CMPA Proposed RMP/FEIS (Andrews/Steens PRMP/FEIS) which analyzed five different levels of grazing in a planning area including the North Steens Project Area. The levels of grazing were reflected in an array of alternatives showing potential effects different levels of grazing management will have on other resources. Alternatives included: (1) the existing (at the time of development of the Andrews/Steens PRMP/FEIS) level of use outside the "no livestock grazing area" established by the Steens Act; (2) a no grazing on public land scenario over the whole planning area; (3) a level of use emphasizing nonconsumptive uses where livestock stocking levels would be lower than existing levels and livestock would be excluded from designated areas; (4) a level of use similar to the existing level but also including changes in management practices after analysis of monitoring data, construction of additional range improvements to open underutilized areas to grazing, and exclusion of specific areas from livestock grazing; and (5) optimizing grazing to the maximum extent possible while still meeting standards for rangeland health.

Current grazing practices in the Project Area are not considered a causal factor for juniper establishment, and cessation or modification of such activities will not reduce undesirable juniper.

The main impact of historic domestic livestock grazing was overall removal of fine fuels, the major carrier of fires in much of the area. Invasion of juniper into big sagebrush communities appears to be directly

related to cessation of periodic fires (Burkhardt and Tisdale 1976).

An excessive level of grazing was documented near the Project Area in 1902 by Dr. David Griffiths during a tour of northern Nevada and southeastern Oregon. The course of the tour led "across and somewhat below the sources of the Blitzen, Mud, Indian, and Cocoamongo (Cucamonga) Creeks (Griffiths 1902)." These creek sources are nearby or in the Project Area and, therefore, Griffiths' description should also reflect the condition of the Project Area in 1902.

Griffiths states, "The most closely pastured region visited was Steins (Steens) Mountains. On the whole trip of three days we found no good feed, except in very steep ravines, until we reached the vicinity of Teger (Kiger) Gorge…In places from Ankle Cap to Nuttersville, a sheep supply camp, there was practically no more feed than on the floor of a corral. We passed two areas at least 2 miles in extent in which even the surface of the ground was reduced to an impalpable powder."

In his summary, Griffiths states, "The public ranges of the region are in many places badly depleted and furnish at the present time not over one-third of the feed which they once did. This is directly traceable to overstocking…" Griffiths made a conservative estimate of 182,500 sheep, or over 450 animals per square mile, on Steens Mountain during the summer season. In addition, the French-Glenn estate and the Pacific Live Stock Company, along with half a dozen smaller ranches, ran their cattle in the same region as much as possible.

The Taylor Grazing Act was passed in 1934. The Preamble to the Act defines it as, "An Act to stop injury to the public grazing lands by preventing overgrazing and soil deterioration; to provide for their orderly use, improvement, and development; to stabilize the livestock industry dependent upon the public range; and for other purposes." By 1936, the transient sheep outfits (those without base property to support their flocks during the winter) were forced off the (Steens) mountain (Bill Bradeen 1972).

Other policy and land management plans adopted include, but are not limited to, the 1997 Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (S&Gs), and the CMPA RMP/Record of Decision (ROD), August 2005. Each document gives direction and guidance on proper multiple resource management of public lands.

The S&Gs discussed above are analyzed through a formal allotment evaluation. Based upon the level of complexities and resource concerns of the allotment, an evaluation is completed on a 5- or 10-year schedule. Through the formal evaluation process, an Interdisciplinary (ID) Team assesses achievement of resource objectives set for the allotment and determines whether the standards have been achieved and guidelines have been conformed to. Additional resource objectives are designed, if necessary, and recommendations for improved management of any identified resources are declared. These standards ensure grazing management provides for the ecological health of rangelands.

While grazing management on Steens Mountain has improved dramatically since 1902, encroached juniper continues to be a problem. Modern fire control and prevention programs are probably the most important factors currently influencing juniper expansion (Burkhardt and Tisdale 1976).

Soule', et al. (2004), found juniper establishment rates are generally accelerated regardless of the active disturbance regime. Ongoing grazing is not a required mechanism to promote increasing woodiness on arid western rangelands (Soule' and Knapp 1996). Burkhardt and Tisdale (1976) found little relationship between range condition of big sagebrush-grass stands and rate of juniper invasion. Invasion of juniper into big sagebrush communities appears to be directly related to the cessation of periodic fires (Burkhardt and Tisdale 1976). Adopting a removal of grazing management regime in the Project Area would not reduce juniper and, therefore, would not meet the objectives of the Project.

Implementing a Removal of Grazing Alternative could have serious implications to the social and economic values of the communities surrounding the Project Area and Harney County. Viability and sustainability of

ranches holding grazing permits in the Project Area could decline as a large part of the lands they rely on becomes unavailable. Heavier grazing on upper reaches of critical riparian areas within and surrounding the Project Area could occur as much of these areas are privately owned. A Removal of Grazing Alternative does not consider effects on the total ecosystem, including both public and private lands.

Issue: Wildlands Juniper Management Area

The Wildlands Juniper Management Area (WJMA) was initially included in the Draft EIS (DEIS) as a project unit within the North Steens Project Area. In response to a request by the Steens Mountain Advisory Council (SMAC) and increased interest in the WJMA by potential cooperators, BLM completed a separate decision document addressing the WJMA demonstration project. Initial demonstration treatment units were implemented within the WJMA during 2006; once cooperator funding is secured, public education opportunities will be pursued.

The WJMA will serve initially as a demonstration area for more common treatments. Treatments have been subjected to considerable scientific scrutiny in the region including the Project Area in partnership with the Eastern Oregon Agricultural Research Center (EOARC) and Oregon State University. Much of the applicable research was conducted within the North Steens Project Area. The BLM has utilized similar juniper management methods in past projects for several decades. The WJMA will serve as an educational tool for informing interested members of the public about more common juniper management methods.

Other juniper management techniques and philosophies have not been equally tested or may not have been developed yet. For these techniques and other unknown ones, the WJMA will serve as an experimental as well as an educational project. Opportunities for cooperator participation in the WJMA project have been investigated and are currently in an early planning stage.

Management Considerations

Rationale for the Decision

Based on the input received during the EIS process, there was both support and opposition to certain components of the Project. No comments were received from Federal or State agencies or Tribal governments indicating the Project was inconsistent with other existing plans or policies. The majority of comments received on the EIS related to juniper treatments within wilderness and WSAs, effects to visual resources, greater sage-grouse habitat modification, treatments in Wild and Scenic River (WSR) corridors, and effects on Special Status Species.

The Preferred Alternative addresses western juniper reduction by emphasizing the restoration of the historic fire regime in the CMPA and the resulting native vegetation communities through active management on a landscape level using natural and prescribed burning (Section 113 of the Steens Act) and considers project elements designed for conservation and restoration of greater sage-grouse habitat. The Preferred Alternative also meets the intent of the Steens Act to actively manage juniper (Section 113(c)) and to promote viable and sustainable grazing on private and public lands [Section 1 (b)(l1)]. The BLM is also tasked with the job of multiple-use management as mandated under the Federal Land Policy and Management Act (FLPMA) and other laws and regulations governing management of public land. Therefore, the Preferred Alternative is the alternative best able to comply with all applicable laws, regulations, policies and agency direction.

1. Primary Decision Criteria (with a description of how the Preferred Alternative met the criteria):

A. To what degree does the alternative reduce fuel loading and effectively treat western juniper in the Project Area? Implementation of the Preferred Alternative will employ all available management actions (or tools) to reduce fuel loading of western juniper on approximately 130,387-188,336 acres. Monitoring will occur following implementation to determine effectiveness of treatments and to further

refine prescriptions for subsequent site-specific treatments (see Monitoring Section).

B. To what degree would the alternative reduce the likelihood of high intensity and severity wildfires in the Project Area? Under the Preferred Alternative mechanical and prescribed fire treatments will reduce dominance of juniper in mountain big sagebrush, quaking aspen, and riparian plant communities outside wilderness on approximately 73,854-81,396 acres. Reducing juniper cover will redirect the area to an appropriate fire regime and condition class; therefore, reducing the likelihood of large-scale, high-intensity fires. Within Steens Mountain Wilderness additional NEPA analysis will be required to reduce the likelihood of large-scale, high-intensity wildfires. Likelihood of large-scale, high-intensity wildfires will not be reduced in areas left untreated in wilderness.

C. To what degree does the alternative conform to the purposes of the Steens Act? (Steens Act, Section 1 (b))

1. **Would the alternative maintain the cultural, economic, ecological, and social health of the Steens Mountain Area in Harney County, Oregon?** The Preferred Alternative reduces risk of large-scale interruption or loss of livestock grazing opportunities on Steens Mountain and the economic and social benefits this activity contributes to Harney County. Reducing cover of expansion juniper, which competes with plant species utilized by livestock and wildlife, will improve ecological health of treatment areas and will also enhance ecological and social health by maintaining vegetation in a stable or upward trend. Treatments in specific areas will be designed to protect cultural resources and treatments will create conditions less likely to result in loss of cultural resources due to large-scale, high-intensity wildfires. Maintenance of cultural, economic, ecological and possibly social health will be improved on 45-65 percent of lands within the Project Area outside wilderness by reducing hazardous fuel loading, providing improved rangelands for livestock operations and wildlife, less site and site constituent loss of cultural resources, and improved riparian and upland habitats.
2. **Would the alternative provide for and expand cooperative management activities among public and private landowners in the vicinity of Steens Mountain Wilderness and surrounding lands?** The Preferred Alternative will allow for cooperative management activities as treatments will occur on private lands as well as BLM-administered lands. The BLM will enter into Cooperative Management Agreements with affected private parties as necessary.
3. **Would the alternative maintain and enhance cooperative and innovative management practices among public and private land managers in the CMPA?** The Preferred Alternative will allow for cooperative and innovative management practices as treatments will occur on private lands as well as BLM-administered lands. The BLM will enter into Cooperative Management Agreements with affected private parties as necessary.
4. **Would the alternative promote viable and sustainable grazing and recreation programs on private and public lands?** The Preferred Alternative will promote viable and sustainable grazing by reducing effects of expansion juniper on approximately 45-65 percent of lands within the Project Area outside wilderness leading to better forage for domestic animals. Improvements to rangelands within Steens Mountain Wilderness may not be realized as quickly compared to lands outside wilderness. Recreation programs on private and public lands will continue and will benefit from reduced fuel loading and an increase in the health and diversity of wildlife habitats.
5. **Would the alternative conserve, protect, and manage for healthy watersheds and the long-term ecological integrity of Steens Mountain?** Reduction of expansion juniper will improve hydrologic function in uplands within treatment areas by reducing the amount of water transpired and intercepted by juniper, increasing cover by vegetation that maintains soil moisture, and increasing storage of moisture to augment stream flows during dry seasons. Reduction of expansion juniper in riparian areas will improve riparian functioning condition by reducing competition with willows and herbaceous riparian vegetation, increasing root mass and density of plant species able to maintain or improve bank stability, and maintaining or improving contact between streambed and water table. With selection of the Preferred Alternative, conservation, protection and management for healthy watersheds and long-term ecological integrity on approximately 73,854-81,396 acres outside wilderness will be realized by reducing expansion juniper.
6. **Does the alternative manage WSAs in a manner consistent with FLPMA as directed by the Steens Act (Section 603C WSA Management)?** All treatment methods including juniper cutting

and piling will occur within WSAs. No new facilities will be constructed and any off-way use of motorized vehicles or equipment will be the minimum necessary to meet project objectives for removal of juniper. The Preferred Alternative will protect and enhance wilderness values. Careful project implementation planning and site-specific mitigation measures will be needed to minimize observable ground disturbance, cross-country travel by equipment, and the appearance of juniper cutting treatments (stumps and tree boles) as being human caused. This alternative offers a better opportunity to successfully restore landscape-level ecological health and diversity to areas where juniper expansion has increased to the extent juniper is resistant to fire, and to restore conditions needed for fire to resume its natural role in limiting juniper distribution.

D. To what degree does the alternative conform to the goals and objectives of the CMPA and Andrews AMU RMPs and RODs?

1. **Would the alternative restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses?** Under the Preferred Alternative mechanical and prescribed fire treatments on approximately 130,387-188,336 acres will occur over time. Within the aforementioned acre figures, 73,854-81,396 acres of juniper-dominated areas will be treated reducing dominance of juniper in mountain big sagebrush, quaking aspen, and riparian plant communities outside wilderness. Treatment will help to return the area to an appropriate fire regime and condition class.
2. **Would the alternative maintain, restore, or improve riparian vegetation, habitat diversity, and geomorphic stability to achieve healthy, productive riparian areas and wetlands and associated structure, function, process and products?** Benefits to riparian functioning condition under the Preferred Alternative will occur as a result of juniper reduction in uplands as well as riparian areas. Any method that removes juniper canopy and kills juniper root systems in uplands or riparian habitat will immediately make additional light and moisture available to competing vegetation and improve watershed stability and function. Restored riparian function will contribute to overall improvements in water quality, aquatic habitat, and stabilizing streambanks.
3. **Would the alternative maintain or improve ecological integrity of old-growth juniper woodland, mountain mahogany and quaking aspen stands/groves? In addition, would the alternative manage woodland habitat so forage, water, cover, structure, and security necessary to meet life history requirements of woodland-dependent and woodland-associated wildlife species are available on public lands?** The Preferred Alternative will treat 45-65 percent of the Project Area outside wilderness to manage woodland habitats for forage, water, cover, structure and security for woodland-dependent wildlife species. The Preferred Alternative will reduce the number of young (< 100 year-old) juniper within established old-growth juniper woodlands. Areas inside wilderness will not be treated unless further NEPA analysis is completed; however, basic needs will be met and habitat will be available for woodland-dependent species.
4. **Would the alternative maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species?** Selection of the Preferred Alternative for areas outside wilderness could result in a return to a more historic Mean Fire Return Interval on 130,387-188,336 acres. If this occurs, a landscape would develop that had a mixture of seral stages reflecting a variety of age classes. The resultant ecological condition and resilience following natural and human caused disturbance of vegetation in the Project Area will be similarly enhanced.
5. **Would the alternative manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands?** The Preferred Alternative will result in a decrease in juniper (about 75 percent) and an increase in grasslands and over time an increase of sagebrush as it returns to burned areas. This will increase structural diversity throughout the Project Area except in wilderness. Many wildlife species, especially big game, will benefit from the decrease in juniper and the early successional habitat created by treatments. Treatments in bitterbrush and Wyoming big sagebrush could affect mule deer fall and winter range and will be planned and limited to meet species needs.
6. **Would the alternative meet social and economic goals and objectives?** The Preferred Alternative will slow and could reverse deterioration of rangeland conditions due to expansion juniper. Improvement of such conditions will lead to better forage for both wildlife and domestic

animals. This improvement will enhance conditions for grazing operations and recreational opportunities on as much as 188,336 acres of the Project Area, and in turn have a positive effect on the local economy.

7. **Would the alternative provide forage where S&Gs are not being met?** This decision factor could have been more clearly defined if it had read: "**Would the alternative provide for opportunities to achieve S&Gs in treated allotments?**" The response to this clarified decision criterion is the Preferred Alternative will achieve juniper reduction in non-wilderness allotments. Juniper reduction will meet the following **Standards**: ***Watershed Function-Uplands*** - the watershed will have improvement in the capturing, storing and safe release of moisture associated with normal precipitation events; ***Watershed Function-Riparian/Wetland Areas*** - an improved physical functionality will be achieved; ***Ecological*** - the hydrologic cycle, energy flow and nutrient cycle, and the ability of rangelands to supply resources and satisfy social and economic needs and associated animal community structure and composition will be improved; ***Water Quality*** - restoration of riparian plant communities will restore more natural water temperatures over time, as well as reduced sedimentation; and ***Native, Threatened and Endangered, and Locally Important Species*** - sage-grouse and related sagebrush, aspen and mountain mahogany dependent species will gain improvements in habitats over time. **Guidelines** for Grazing Management that will be achieved by the Preferred Alternative include ***Monitoring*** and ***Accelerating Rangeland Recovery***. Replacement of expansion juniper with increased grasses and shrub components will increase forage production and improve livestock distribution issues where they may occur. In this alternative, approximately 45-65 percent of all upland landscapes outside wilderness will be treated over the life of the Project.

E. Would the alternative conform to the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon* (2005)? The Preferred Alternative conforms to the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon* (2005) for treatment of juniper in areas outside wilderness. The strategy indicates 68 percent of sagebrush habitats are in advanced structural stages. Western juniper is actively reducing acres of sagebrush available for sage-grouse use. Activities conducted under the Preferred Alternative may initially reduce sagebrush cover across the Project Area. To offset reduction in sagebrush cover during this project, acres of sagebrush cover lost from wildfires in 2006 and recent aroga moth infestations were considered. As a result of this consideration, treatment of large blocks (>500 acres) of sagebrush with early transition juniper encroachment will be by juniper cutting only to preserve sagebrush habitat. This technique will be utilized for the first 5 years of project implementation. Efforts to restore sagebrush in wildfire areas and monitoring of these areas will be ongoing. Recovery of sagebrush plant communities in the Project Area will be monitored. Data gathered will be utilized in the determination of acres to be treated and rate at which sagebrush cover returns. After the 5-year timeframe, annual acres treated will be balanced to ensure compliance with the strategy. For areas in wilderness, objectives of reducing juniper canopy in sage-grouse habitat will not be met since no treatments will occur within wilderness without further NEPA analysis. Continued dominance of western juniper in this part of the Project Area will result in a net loss of sagebrush.

F. Would the alternative conform to the *Greater Sage-Grouse and Sagebrush Steppe Ecosystems Management Guidelines* (2000)? The Preferred Alternative conforms to these guidelines for areas outside wilderness. Treatment of juniper should improve sage-grouse habitat quality in the long term (20 years). This is not the case in wilderness where no treatments are planned and further NEPA analysis will be required to conduct juniper treatments. Juniper will continue to expand in this area and adversely affect sage-grouse habitat.

G. Does the alternative conform to the Steens Mountain Wilderness and WSRs Plan (August, 2005)? Under the Preferred Alternative, wildland fire use could occur aiding in restoration of appropriate wildland fire regimes and ecosystem integrity. Further NEPA analysis is required for use of prescribed fire within wilderness. An MDA is also required.

2. Supplemental Decision Criteria:

A. What is the recommendation of the SMAC? The SMAC recommended the Preferred Alternative.

B. Does the alternative support partnerships? The Preferred Alternative best supports partnerships.

The No Action Alternative or the other action alternatives were not selected for reasons described in the table below.

Decision Criteria		No Treatment	Partial Treatment	Limited Treatment	Full Treatment	Continuation of Current Management
A. Degree of reduced fuel loading and degree of effective treatment of western juniper?		No reduction of fuels or treatment of juniper will occur.	86,924 acres will be treated	130,387 acres will be treated	188,336 acres will be treated	Further NEPA required, but juniper could be treated on a small scale.
B. Reduced likelihood of high-intensity and severity wildfires?		Likelihood of high-intensity and severity wildfires will not be reduced.	The likelihood of high-intensity and severity wildfire will be reduced in areas outside wilderness and WSAs.	The likelihood of high-intensity and severity wildfire will be reduced with use of prescribed fire within wilderness and WSAs.	The likelihood of high-intensity and severity wildfire will be further reduced with use of cutting, burning or both on all land designations.	Further NEPA required, but could reduce high-intensity and severity wildfires.
C. Conformance to purposes of the Steens Act?						
1.	**Maintain cultural, economic, ecological and social health of Steens Mountain.**	The cultural, economic and ecological integrity of Steens Mountain will not be maintained. Social health could be maintained as expansion juniper provides more screening.	Cultural, economic, ecological and possibly social health will be improved in areas outside of wilderness and WSAs by providing improved rangelands for livestock operations, less site and site constituent loss of cultural resources, and improved riparian areas and uplands.	Cultural, economic, ecological and possibly social health will be improved on all land designations by providing improved rangelands for livestock operations, less site and site constituent loss of cultural resources, and improved riparian areas and uplands through use of prescribed fire.	Cultural, economic, ecological and possibly social health will be improved on all land designations by providing improved rangelands for livestock operations, less site and site constituent loss of cultural resources, and improved riparian areas and uplands by implementing all treatment methods.	Further NEPA required; however, cultural, economic, and social health of Steens Mountain could be improved on a case-by-case basis.
2.	**Provide or expand cooperative management activities?**	No cooperative management activities for juniper-related treatments will occur.	Cooperative management activities for juniper-related treatments may occur outside wilderness and WSAs.	Cooperative management activities for juniper-related treatments may occur.	Cooperative management activities for juniper-related treatments may occur.	Further NEPA required, but cooperative management activities for juniper-related treatments could occur.
3.	**Maintain and enhance cooperative and innovative management practices?**	No cooperative and innovative management practices for juniper-related treatments will occur.	Cooperative and innovative management practices for juniper-related treatments may occur outside wilderness and WSAs.	Cooperative and innovative management practices for juniper-related treatments may occur.	Cooperative and innovative management practices for juniper-related treatments may occur.	Further NEPA required, but cooperative and innovative management practices for juniper-related treatments may occur.

Decision Criteria		No Treatment	Partial Treatment	Limited Treatment	Full Treatment	Continuation of Current Management
4.	**Promote viable and sustainable grazing and recreation?**	Viable and sustainable grazing and recreation will not be promoted as rangeland conditions will continue to deteriorate without juniper treatments and the quality of recreation experiences could be reduced and visitors displaced if larger, stand-replacing fires occur.	Viable and sustainable grazing and recreation will be promoted outside wilderness and WSAs with improved rangeland conditions on a small scale (86,924 acres). The quality of recreation experiences, especially hunting, fishing, and wildlife viewing, could be improved.	Viable and sustainable grazing and recreation will be promoted with improved rangeland conditions. The quality of recreation experiences, especially hunting, fishing, and wildlife viewing, could be improved.	Viable and sustainable grazing and recreation will be promoted on a larger scale (188,336 acres) with improved rangeland conditions on all land designations. The quality of recreation experiences, especially hunting, fishing, and wildlife viewing, could be improved.	Further NEPA required, however, viable and sustainable grazing and recreation could be promoted on a small scale (case-by-case basis).
5.	**Conserve, protect, and manage healthy watersheds and long-term ecological integrity?**	Watersheds will not be treated for juniper expansion to conserve, protect or manage for health or long-term ecological integrity.	Conservation, protection and management of healthy watersheds will occur in areas outside wilderness and WSAs.	Conservation, protection and management of healthy watersheds will occur on all lands. However, only prescribed fire will be used in wilderness and WSAs reducing effectiveness in "fire proof" stands.	Conservation, protection and management of healthy watersheds will occur on all lands as all treatments methods are available.	Further NEPA required, however, conservation, protection and management of healthy watersheds could occur on a small scale (case-by-case basis).
6.	**Manage WSAs consistent with FLPMA?**	Wilderness values associated with ecological health and diversity will likely decline with continued juniper expansion.	Consistent with protecting and enhancing wilderness values by allowing naturally-ignited fire to resume its role in limiting juniper distribution. Treated areas where fire alone can effectively treat juniper will be expected to return to a more natural, healthy and diverse ecological community. The PDEs will be used to minimize any ground disturbing activities associated with managing naturally-ignited fires. Treated areas will be expected to have the	Consistent with protecting and enhancing wilderness values. The PDEs will be used to minimize any ground disturbing activities associated with managing prescribed fires. Treated areas will be expected to have the appearance of a natural wildfire with visual effects directly associated with fire management actions not being easily recognized as human influenced. However, without pre-burning treatments such as juniper cutting, those areas where	Consistent with protecting and enhancing wilderness values. Careful project implementation planning and site-specific mitigation measures will be needed to minimize observable ground disturbance, cross-country travel by equipment, and the appearance of juniper cutting treatments (stumps and tree boles) as being human caused. This alternative offers a better opportunity to successfully restore landscape-level ecological health and diversity to	Consistent with protecting and enhancing wilderness values. Careful project implementation planning and site-specific mitigation measures will still be needed. Meeting landscape-level objectives for restoring ecological health, diversity and a more natural fire regime may be more challenging given projects will likely occur at a smaller scale over a longer period of time.

Decision Criteria		No Treatment	Partial Treatment	Limited Treatment	Full Treatment	Continuation of Current Management
			appearance of a natural wildfire with visual effects directly associated with fire management actions not being easily recognized as human influenced. However, those areas where juniper expansion has progressed to the point trees have become fire resistant may continue to decline, and restoration of conditions needed for fire to resume its role of naturally limiting juniper distribution may be more difficult.	juniper expansion has progressed to the point trees have become fire resistant may continue to decline as described under the No Treatment Alternative, and restoration of conditions needed for fire to resume its role of naturally limiting juniper distribution may be more difficult.	areas where juniper expansion has increased to the extent juniper is resistant to fire alone, and to restore conditions needed for fire to resume its role in naturally limiting juniper distribution.	
D. Conformance to goals and objectives of the RMPs?						
1.	**Restore and maintain the integrity of ecosystems consistent with fire regimes and land uses.**	No treatment will occur to restore or maintain the integrity of ecosystems consistent with fire regimes or land uses.	Treatment outside wilderness and WSAs will help return the area to an appropriate fire regime and condition class.	Treatment on all land designations will help return the area to an appropriate fire regime and condition class.	Treatment on all land designations on a larger scale (188,336 acres) will return the area to an appropriate fire regime and condition class.	Further NEPA required, however, it is unlikely an appropriate fire regime and condition class will return on such a small scale (case-by-case basis).
2.	**Maintain, restore, or improve riparian vegetation, habitat diversity, geomorphic stability.**	No treatment will occur to maintain, restore or improve riparian vegetation, habitat diversity, or geomorphic stability.	Treatment outside wilderness and WSAs will help maintain, restore or improve riparian vegetation, habitat diversity and geomorphic stability.	Treatment on all land designations will help maintain, restore or improve riparian vegetation, habitat diversity and geomorphic stability. However, the effectiveness of prescribed fire alone in wilderness and WSAs will not be realized due to closed canopy juniper woodlands.	Treatment on all land designations will maintain, restore and improve riparian vegetation, habitat diversity and geomorphic stability as all treatment methods will be utilized.	Further NEPA required; however, maintenance, restoration or improvement of riparian vegetation, habitat diversity and geomorphic stability could occur on a small scale (case-by-case basis).
3.	**Maintain or improve**	No juniper treatments to	Some (25-30% of upland	More (30-45% of upland	The most (45-65% of	Following further NEPA,

Decision Criteria		No Treatment	Partial Treatment	Limited Treatment	Full Treatment	Continuation of Current Management
	ecological integrity of old-growth juniper, mountain mahogany and quaking aspen stands. Manage woodlands for forage, water, cover, structure and security for woodland-dependent/associated wildlife species.	improve the ecological integrity of woodlands will occur. Woodland-dependent species will still have habitat supplying their basic needs for forage, water and cover. Habitat for sagebrush obligate species will continue to decline.	landscapes) juniper for woodland-dependent species will be removed; however, plenty of habitat supplying basic needs in wilderness and WSAs will be available. Up to 90% of the juniper less than 150 years old in old-growth stands will be removed. Old (> 150 yrs) trees or trees exhibiting old-growth characteristics will be left in all treated areas.	landscapes) juniper will be removed across the landscape since actions will take place throughout the Project Area. While habitat will be reduced, there will still be habitat available to supply the basic needs for woodland-dependent species. Trees with old-growth characteristics will not be targeted for cutting or burning across the Project Area.	upland landscapes) juniper will be removed across the landscape since actions will take place throughout the Project Area using all available methods. While habitat will be reduced more than in other alternatives, there will still be some habitat available to supply the basic needs for woodland-dependent species. Trees with old-growth characteristics will be not be targeted for cutting or burning across the Project Area.	juniper for woodland-dependent species will be removed and plenty of habitat supplying basic needs of woodland-dependent species will still be available. Trees with old-growth characteristics will not be targeted for cutting or burning in treated areas. No old-growth areas will be selected for treatment.
4.	**Maintain, restore or improve integrity of desirable vegetation communities.**	There will be no juniper treatments to restore or improve the integrity of vegetation communities.	Diversity at different spatial scales and connectivity of shrub and herbaceous vegetation will be increased in areas outside wilderness and WSAs helping to maintain, restore or improve integrity of desirable vegetation communities.	Diversity at different spatial scales and connectivity of shrub and herbaceous vegetation will be increased helping to maintain, restore or improve integrity of desirable vegetation communities.	Diversity at different spatial scales and connectivity of shrub and herbaceous vegetation will be increased to maintain, restore or improve integrity of desirable vegetation communities on all land designations with all tools available.	Further NEPA required; however, treatment on a case-by-case basis could allow for maintenance, restoration or improvement of desirable vegetation communities on a small scale.
5.	**Manage rangeland habitats for forage, water, cover, structure, and security for wildlife.**	No juniper-related treatments will occur to improve rangeland habitat for forage, water, cover, or structure. Security for some wildlife could be increased.	Juniper-related treatments will result in improvement in forage and structure for wildlife. Security will not be affected since juniper stringers will remain and sagebrush will return in time to treated areas. Wilderness and WSAs will not be treated.	Juniper-related treatments will result in improvement in forage and structure for wildlife. Security will not be affected since juniper stringers will remain and sagebrush will return in time to treated areas.	Juniper-related treatments will result in improvement in forage and structure for wildlife. Security will be affected since juniper and sagebrush canopy cover will be reduced the most (45-65%) over the life of the plan. Sagebrush will return in time to treated areas.	Further NEPA will be required to complete any juniper treatments. The effects are similar in treated areas to the Partial Treatment Alternative but the rate of treatment will likely be slower.
6.	**Meet social and**	Social and economic goals	Some social and economic	Social and economic goals	Social and economic goals	Further NEPA required,

Decision Criteria		No Treatment	Partial Treatment	Limited Treatment	Full Treatment	Continuation of Current Management
	economic goals and objectives	and objectives will not be met as rangeland conditions will continue to deteriorate resulting in adverse effects on the viability of livestock operations; deteriorating conditions will negatively affect wildlife, decreasing recreational opportunities associated with hunting, fishing, and wildlife observation, such as bird watching, and other recreational opportunities.	goals will be met outside wilderness and WSAs as rangeland conditions will improve with treatment on a small scale (86,924 acres). Improvement of wildlife habitat for grassland and shrub dependent species could also occur improving recreational opportunities.	will be met on all land designations as rangeland conditions will improve with prescribed fire. Improvement of wildlife habitat for grassland and shrub dependent species could also occur improving recreational opportunities.	will be met on all land designations as rangeland conditions will improve on 188,336 acres with implementation of all treatment options. Improvement of wildlife habitat for grassland and shrub dependent species will also occur improving recreational opportunities.	but some social and economic goals could be met with improvement or rangeland conditions.
7.	**Provide forage where S&Gs are not being met. (Please refer to D.7. above under Primary Decision Criteria for clarification of this decision criterion.)**	Opportunities to achieve S&Gs through juniper treatments will not occur.	Under this alternative 25-30% of the upland landscape will be treated providing opportunities for achievement of S&Gs. Opportunities to achieve S&Gs will be limited, however, as cutting and prescribed burning will not occur in wilderness and WSAs.	This alternative will treat 30-45% of the upland landscape providing opportunities for achievement of S&Gs. Prescribed fire could occur in wilderness and WSAs, but recovery of the area to meet S&Gs will be slower than under the Full Treatment Alternative.	Treatment under this alternative will be the most effective in providing opportunities for achievement of S&Gs as 45-65% of the upland landscape will be treated.	Further NEPA will be required to provide opportunities for achievement of S&Gs.
E. Conformance to the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon*?		This alternative will not conform to these guidelines as juniper will continue to expand into many habitats used by sage-grouse which will reduce sagebrush cover and productivity of these sites.	This alternative will not conform to these guidelines as juniper will continue to expand into habitats used by sage-grouse in wilderness and WSAs which will reduce sagebrush cover and productivity of these sites. Areas outside wilderness and WSAs will be treated which in the long term (20 years) will improve sage-grouse	This alternative will conform to these guidelines since treatments could be conducted in all areas of the Project Area which will reduce juniper canopy cover and improve productivity of treated areas. The limitation of no cutting of juniper in wilderness and WSA may reduce the effectiveness of treatments in these areas.	This alternative will conform to these guidelines since treatments could be conducted in all areas of the Project Area which will reduce juniper canopy cover and improve the productivity of treated areas. The rate of treatment of sites and the amount of sagebrush treated may reduce structure and quality of	This alternative will not conform to these guidelines as juniper will continue to expand into many habitats used by sage-grouse which will reduce sagebrush cover and productivity of these sites. Further NEPA will be required to conduct any treatments.

Decision Criteria	No Treatment	Partial Treatment	Limited Treatment	Full Treatment	Continuation of Current Management
		habitat in about half of the Project Area.		sage-grouse habitat until sagebrush cover returns.	
F. Conformance to *Management Guidelines for Greater Sage-Grouse and Sagebrush Steppe Ecosystems*?	This alternative will not conform to these guidelines as juniper will continue to expand into many habitats used by sage-grouse which will reduce sagebrush cover and productivity of these sites.	This alternative will not conform to these guidelines as juniper will continue to expand into habitats used by sage-grouse in wilderness and WSAs which will reduce sagebrush cover and productivity of these sites. Areas outside wilderness and WSAs could be treated which in the long term (20 years) will improve sage-grouse habitat in about half of the Project Area.	This alternative will conform to these guidelines since treatments could be conducted in all areas of the Project Area which will reduce juniper canopy cover and improve the productivity of treated areas. The limitation of no cutting of juniper in wilderness and WSA may reduce the effectiveness of treatments in these areas.	This alternative will conform to these guidelines since treatments could be conducted in all areas of the Project Area which will reduce juniper canopy cover and improve the productivity of treated areas. The rate of treatment of sites and the amount of sagebrush treated may reduce structure and quality of sage-grouse habitat until sagebrush cover returns.	This alternative will not conform to these guidelines as juniper will continue to expand into many habitats used by sage-grouse which will reduce sagebrush cover and productivity of these sites. Further NEPA will be required to conduct any treatments.
G. Conformance to the Steens Mountain Wilderness and WSRs Plan.	The No Treatment Alternative will not conform to the Steens Mountain Wilderness and WSRs Plan.	The Partial Treatment Alternative allows for wildland fire use in conformance with the wilderness and WSRs plan.	The use of prescribed fire is in conformance with the wilderness and WSRs plan in conjunction with an MDA.	Treatment of juniper is in conformance with the wilderness and WSRs plan in conjunction with an MDA.	Further NEPA required, however, treatment could be in compliance with the Steens Mountain Wilderness and WSRs Plan.
2. Supplemental Decision Criteria:					
A. In line with recommendation of SMAC?	Not recommended by the SMAC.	Not recommended by the SMAC.	Not recommended by the SMAC.	The Full Treatment Alternative was recommended by SMAC for areas outside wilderness.	The SMAC recommended Continuation of Current Management within wilderness.
B. Support of partnerships?	Does not support partnerships for juniper-related projects.	Could support partnerships for juniper-related projects outside wilderness and WSAs.	Could support partnerships.	Could support partnerships.	Further NEPA required, however, could support partnerships.

Mitigation Measures, Monitoring and Adaptive Management

Mitigation Measures

In order to minimize effects from implementation, Best Management Practices (BMPs) identified in Appendix B in the AMU and Steens RMPs/RODs will be utilized.

Additionally, PDEs (Project Design Elements) were developed to help meet project objectives and will also aid in mitigating adverse effects to resources. These PDEs are subject to change during the adaptive management process. Any changes, additions or deletions will be made through coordination with cooperating agencies and by appropriate BLM specialists and reviewed and approved by the Authorized Officer (BLM Andrews RA Field Manager). Not all PDEs are appropriate and applicable to all on-the-ground situations. Applicable PDEs will be applied as appropriate following advice and recommendations from the ID Team. These recommendations will be provided to the Field Manager who makes the decision based on a review of the prescription and other factors. Not all PDEs are considered mitigating measures (e.g., consulting and monitoring); however, they are shown here to demonstrate BLM's efforts in producing positive results.

1. **Safety** - Public and firefighter safety is the number one priority.
2. **Wildlife Habitat Modification** - Wildlife habitat descriptions and considerations in Appendix P of the Andrews/Steens PRMP/FEIS will be utilized to ensure project implementation properly considers wildlife requirements and moves toward the Desired Range of Conditions described in the Andrews/Steens PRMP/FEIS.
3. **Special Status Species** - Special Status Species are to be protected throughout the life of the Project; some species require no additional protection. Special Status plant populations, if found, will be avoided within mechanically-treated areas and may be protected during deployment of prescribed fire by black-lining resources and use of appropriate ignition techniques. Special Status wildlife species habitat will be protected throughout the life of the Project through conformance with the State and National sage-grouse strategies and establishment of greater ecosystem functionality.
4. **Greater Sage-Grouse Leks** - Invasive juniper will be treated aggressively within greater sage-grouse 2-mile lek buffers. Treatment methods will be limited to cutting and individually burning juniper within the buffer area. Treatments within the 2-mile buffer area will not take place from March 1 to June 15.
5. **Big Game Cover** - Suitable big game hiding and thermal cover within mechanical fuels reduction areas are to be maintained. Mechanical treatment areas will continue to function as big game cover following treatment.
6. **Big Game Browse** - Burned acreage within prescribed fire project units supporting big game browse could be limited in some cases. This PDE will not apply to project units containing juniper woodlands in a late stage of development.
7. **Old-Growth Juniper** - Old-growth juniper stands are to be retained. Additionally 10-15 percent of expansion juniper is to be retained to provide hiding and thermal cover for mule deer and elk and to provide for future old-growth.
8. **Old-Growth Juniper Characteristics** - Cutting of juniper with old-growth characteristics or obvious wildlife occupation (cavities or nests) will be avoided in all situations.
9. **Bitterbrush** - Juniper will be treated mechanically in areas where bitterbrush is healthy and a major component of a site. Individual tree burning could also be used.
10. **Bitterbrush** - Areas currently supporting bitterbrush and treated during project implementation may require planting or seeding with bitterbrush. Burned rangeland (outside of wilderness or WSAs) may be seeded with a rangeland drill, while burn piles or jackpots in the mechanically-treated project units may be seeded without site preparation. Where feasible, bitterbrush will be seeded alone (rather than within a seed mix) in order to reduce competition with other species and increase likelihood of establishment.
11. **Mountain Mahogany** - Juniper will be treated mechanically in mountain mahogany stands. Individual tree burning could also be used.
12. **Low Sagebrush** - Individual expansion juniper will be cut or burned in most low sagebrush sites. Complete removal of expansion juniper will be prescribed in many of these low sagebrush areas which are important habitat for greater sage-grouse. Broadcast burning will be avoided in low sagebrush communities.
13. **Wyoming Big Sagebrush** - Wyoming big sagebrush sites (lower elevation sites) for the most part are not

included in the Project Area; those with substantial cheatgrass in the understory will not be burned in most cases. Treatment by other means such as juniper cutting or mastication will be undertaken. Wyoming big sagebrush sites with minimal cheatgrass in the understory may be burned and consideration given to reseeding the area with appropriate perennial grass species.

14. **Early Transition to Juniper Woodlands** - Big sagebrush stands with scattered juniper will not be treated by broadcast burning unless the prescription calls for under 50 percent blackened acres.
15. **Adjacent Treatments** - Treated mountain big sagebrush communities should attain 10-15 percent sagebrush cover (as defined in the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon*) on average before any additional treatments will be considered within the same individual treatment unit or a contiguous adjacent unit.
16. **Paleontological Resources** - Prior to treatment implementation, areas determined to be of high probability for location of paleontological artifacts will be surveyed. Paleontological properties will be protected throughout the life of the Project through removal of paleontological site area(s) from treatment.
17. **Cultural Resources** - Prior to treatment implementation, a cultural resource inventory will be completed. A stratified survey sample will be employed to minimize cost and time while ensuring location of cultural resource properties. Cultural resource properties will be protected throughout the life of the Project. Only heavy equipment using rubber tires will be utilized within site boundaries. No heavy equipment will be allowed within cultural site boundaries during wet or soil saturated conditions. Sites containing artifacts or features susceptible to fire damage or destruction will be protected during treatment through black-lining adjacent resources and appropriate ignition techniques.
18. **American Indian Traditional Practices** – Government-to-Government consultation concerning potential effects to American Indian traditional practices will occur prior to implementation.
19. **Noxious Weeds** - Prior to implementation of prescribed fire and mechanical treatment within project units, noxious weed populations in the area will be inventoried. Weed populations identified in or adjacent to the Project Area will be treated using appropriate methods.
20. **Noxious Weeds** - Following treatment of prescribed fire and mechanically-treated project units, the areas will be monitored for noxious weed invasions.
21. **Noxious Weeds** - All vehicles and equipment used during implementation will be cleaned before and following treatments to guard against spreading noxious weeds. Vehicles may also be cleaned again prior to re-entry into the Project Area if they have been utilized for any additional activities following post-treatment cleaning.
22. **Seeding** - Sites lacking sufficient understory species, such as fully-developed juniper woodlands, or areas that have burned at a high severity may require seeding following a prescribed fire treatment to attain the desired post-fire response. As they are available, mixtures of native grass, forb, and shrub seed may be applied to designated areas with aerial or ground-based methods. If native seeds are not available in sufficient quantity, suitable nonnative species may be seeded. Candidate sites for seeding will be determined on a case-by-case basis as pretreatment prescriptions are developed and as monitoring data are gathered.
23. **Riparian Areas** - Where juniper are present along riparian streambanks and where pre-burn cutting may cause dried fuels to accumulate within deciduous woody components, juniper will not be pretreated by cutting prior to burning. Expansion juniper will be cut following the burn treatment.
24. **Riparian Areas** - Project unit treatments will be spread between drainages based on site-specific, post-treatment evaluation to reduce potential of any adverse effects to riparian areas, water quality, and fish.
25. **Riparian Areas** - Riparian areas will be evaluated by a fisheries biologist or hydrologist prior to implementation of fuels reduction activities. Site-specific recommendations will be made for sensitive or degraded areas. Shade providing vegetation will be measured before and after treatments.
26. **Riparian Areas** - Riparian areas that have not made substantial recovery within two seasons of rest after treatment will continue to be rested or fenced as necessary until vegetation has recovered to at least two desirable perennial plants per $10ft^2$.
27. **Riparian Areas** - Juniper trees will be felled and left as large woody debris to protect riparian vegetation, provide shade by being felled over the stream, and provide cover for fish where needed in areas where stream channels are determined to be stable.
28. **Recreation** - Where possible to still meet project objectives, individual juniper trees providing vegetative screening around known campsites will be left intact.
29. **Visual Resources** - Individual treatments will be designed to meet the Visual Resource Management (VRM) class objective(s) for the Project unit in order to protect visual resources throughout the life of the Project.

30. **Visual Resources** - Where possible to still meet project objectives, individual juniper trees providing vegetative screening around unnatural features will be left intact.
31. **Visual Resources** – Where possible, design treatment boundaries are to be irregular in shape to help mimic more natural variations in vegetation that will occur with wildfire.
32. **Visual Resources** – On VRM Class I and II lands, juniper tree stumps will be left no higher than 12 inches. Where possible and feasible, cutting the stumps shorter than 12 inches and carving the smooth surface from the stump could be considered.
33. **Roads and Trails in the CMPA** - "No new road or trail for motorized or mechanized vehicles may be constructed on Federal lands in the Cooperative Management and Protection Area unless the Secretary determines that the road or trail is necessary for public safety or protection of the environment." [Steens Act Section 112 (d) (1)].
34. **Road Condition and Maintenance** - Safe conditions will be maintained throughout the duration of the North Steens Project (CMPA RMP, Appendix M). Several roads will be maintained consistent with assigned maintenance levels. Roads may be graded, graveled, rocks removed, ditches cleaned, and culverts or rock crossings installed to prevent accelerated erosion and to provide easier access for firefighting personnel and administration. Existing roads will be used as fire lines and safety zones. Roads determined to be essential for success of the Project, but determined to be closed in the Travel Management Plan, will be improved for the duration of the Project and reclaimed upon project completion.
35. **Wilderness Study Areas** - Use off ways by motorized vehicles and equipment will be the minimum necessary to meet project objectives. Active management of juniper by BLM, as emphasized in Section 113 (c) of the Steens Act, requires administrative use of motorized vehicles for proper project implementation and for fire fighter safety. Off-road travel may be needed for administrative purposes for this project, and is allowed under Section 112 (b) (2) (A) of the Steens Act. If so, motorized off-road travel will be the minimum necessary to meet project objectives. Ways currently open to motorized vehicles and exterior roads will be used to the extent possible, prior to using any off-road routes. Off-road routes will be rehabilitated following project implementation in any unit to preclude any additional, non-administrative, off-road travel.
36. **Wilderness Study Areas** - Wilderness values of naturalness and opportunities for primitive and unconfined recreation or solitude found in WSAs will be protected. Any project activities within any WSA will comply with the FLPMA and Steens Act.
37. **Wilderness Study Areas** - "The wilderness study areas referred to in subsection (a) shall continue to be managed under section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782(c)) in a manner so as to not impair the suitability of these areas for preservation as wilderness." [Steens Act Section 204 (b)].
38. **Steens Mountain Wilderness Area –** Actions following appropriate NEPA analysis within Steens Mountain Wilderness will conform to the Steens Act and Wilderness Act. An MDA will be completed and documented using a Minimum Requirement Decision Guide worksheet. A MDA will only be used for actions within Steens Mountain Wilderness.
39. **Public Notification** - When possible, adequate and timely notification to the public of the scope, location, and timing of activities throughout the life of the Project and of any closures that may result will be provided. Methods of notification could include, but may not be limited to, press releases, newsletters, BLM website, and bulletin boards within and near the CMPA.
40. **Project Progress/Results** - Project progress and results of implementation will be monitored and documented and, optimally, published on a recurring 3- to 5-year basis.
41. **Post-Treatment Resting** - Livestock grazing will not occur for a minimum of two growing seasons in pastures treated with prescribed fire.
42. **Pretreatment Resting** - One season of rest from grazing may be necessary prior to treatment with prescribed fire to allow for development of a fine fuel ignition source.
43. **Burn Plan Objectives** - Prescribed fire treatments within a specific allotment should achieve burn plan objectives during a single season if possible. Potential negative economic effects on grazing permit holders could be minimized through this approach.
44. **Project Maintenance and Follow-Up Treatments** - Re-entry into an area may be essential in many cases to achieve any/all project objectives. Follow-up treatments will be the same as those analyzed in the EIS.
45. **Fisheries** – Temperature probes will be placed into streams within burn units one year before burning, during prescribed fire, and for one year after burning to record stream temperatures.
46. **Wyoming Big Sagebrush** - Wyoming big sagebrush sites next to existing crested wheatgrass seedings should

not be treated with broadcast burning. Jackpot burning of cut juniper, burning of individual juniper trees or mastication could be allowed in some situations.

47. **Biological Soil Crusts** – Mosaic burning patterns should be utilized where soil crust communities are present to promote a mosaic of biological soil crust seral stages. In low sagebrush communities cutting activities will be considered preferable to burning as biological soil crusts in these sites experience fire on a much less frequent basis. In very limited cases, small areas may be flagged for treatment avoidance. This PDE functions as a project specific BMP for biological soil crusts.
48. **Wild and Scenic Rivers** - Acreage (322) outside Steens Mountain Wilderness and Riddle Brothers Ranch Historic District will be treated according to the underlying land management designation (CMPA, WSA, or Page Spring Campground) and to meet any fuel management concerns.

Monitoring

Introduction

This section outlines a monitoring plan describing activities the Andrews RA staff and Burns Interagency Fire Zone personnel will perform to ensure all prescribed burning treatments conform to project design criteria and meet objectives. The plan guides implementation and effectiveness monitoring for a period of up to 3 years after completion of yearly treatments. Implementation monitoring assesses whether a project is implemented as designed. Effectiveness monitoring is employed to address questions about accomplishment of specific treatment objectives and effectiveness of PDEs. This monitoring plan will satisfy the prescribed fire monitoring requirements described in *Interagency Standards for Fire and Fire Aviation Operations 2003* [U.S. Department of the Interior (USDI)/U.S. Department of Agriculture (USDA)].

Measurable Objectives

Low Sagebrush Community

There are approximately 102,905 acres in the Project Area identified as low sagebrush/grassland communities and 47,421 acres of juniper/low sagebrush. The objective in these plant communities is to reduce expansion juniper by 75-100 percent and protect the integrity of the low sagebrush flats. This objective applies to early, mid and late-successional juniper sites.

Landscape level objective:

Over a 5-year period, treat at least 5,000 acres of low sagebrush communities.

Big Sagebrush Community

There are approximately 40,684 acres identified as mountain big sagebrush/grassland communities, 51,992 acres as big sagebrush/shrublands, 43,390 acres as juniper/big sagebrush, and 3,352 acres as big sagebrush/annual grassland in the Project Area. The objective in these plant communities is to reduce expansion juniper by 75-85 percent which will restore and enhance existing big sagebrush communities. This objective applies to early, mid and late-successional juniper sites.

Burn mosaic percentage objectives are specific to the juniper transition stage of the plant community.

1. Early-transitional juniper sites in mountain big sagebrush – Under 50 percent of the plant community will be treated.
2. Mid-transitional juniper sites in mountain big sagebrush – Up to 70 percent of the plant community will be treated.
3. Late-transitional juniper sites in mountain big sagebrush – Up to 70 percent (or greater in some cases) of the plant community will be treated.

Landscape level objective:

1. Over a 10-year period, increase mountain big sagebrush habitat by 15,000 to 40,000 acres.

Other important plant communities occurring within these sites include mountain mahogany and bitterbrush stands. The objective in these areas is to reduce expansion juniper by 75-85 percent while retaining existing mountain mahogany and dense bitterbrush populations. This objective applies to early, mid and late-successional juniper sites.

Landscape level objective:

1. Over a 5-year period, treat at least 250 acres of juniper invaded mountain mahogany.

Aspen Community

Many aspen stands within the Project Area are being affected by juniper. The objective in these areas is to reduce the overstory by at least 50 percent to open understory and facilitate suckering. This objective applies to early, mid and late-successional juniper sites within aspen stands.

Landscape level objective:

1. Over a 5-year period, treat at least 250 acres of aspen stands to facilitate suckering.

Old-Growth Juniper Community

Many old-growth juniper sites within the Project Area are being infiltrated by younger juniper.

The objective in this community is to reduce expansion juniper by 75-85 percent while retaining existing old-growth juniper. This objective applies to early, mid and late-successional juniper sites within old-growth juniper populations.

Landscape level objective:

1. Over a 5-year period, reduce expansion juniper in up to 500 acres of old-growth juniper.

Riparian Plant Community

Riparian habitat has been modified by expansion juniper. Treatment is to reduce expansion juniper.

Riparian habitat objectives include:

1. Reduce expansion juniper by 75-85 percent. This objective applies to early, mid and late-successional juniper sites within riparian habitat.

Landscape level objective:

1. Over a 5-year period, treat at least 10 miles of riparian habitat.

Minimum monitoring for the aforementioned landscape objectives will include photo points or density transects to determine if project objectives are being met. Monitoring data will be utilized as part of adaptive management. Additional monitoring could be established, but will be subject to budgetary and staffing constraints.

Coordination

Since many different resources will be monitored, managers and specialists will be involved with various aspects of the monitoring program. Scheduled monitoring visits and data collection will be dependent on treatment objectives, timing of implementation activities, and responses of specific resources to fire and fire surrogates. For this reason, close and frequent coordination between resource specialists, implementation specialists, and management is essential.

Roles and Responsibilities

The following is a list of key personnel and their responsibilities involved in coordinating and implementing the North Steens Project Monitoring Program.

Andrews RA Field Manager

Determines priorities for monitoring and other programs in the RA.

North Steens Project Lead

1) Updates the District Fuels Planner and ID Team of any significant issues raised by publics or stakeholders pertinent to monitoring program.
2) Coordinates project scheduling and proposes schedule and budget for monitoring of the Project with RA staff lead, staff, and budget program lead.
3) Compiles completed monitoring results specific to project implementation, and reports to Field Manager.

Deputy Fire Staff

Serves as a liaison between the Burns BLM line officers, State Office, research personnel, and all other agency personnel.

District Fuels Planner

1) Tracks and manages budget for monitoring activities on an annual basis.
2) Works with specialists to develop data collection protocols.
3) Ensures information is forwarded to appropriate line officers, resource specialists, research personnel, and personnel from other agencies.
4) Works with ID Team.
5) Works with burn supervisors.
6) Works within Fire/Fuels and District organizations to secure critical personnel and resources for monitoring program.

Resource Specialists (Archaeologist, Botanist, Fire Ecologist, Wildlife Biologist, Noxious Weeds, Livestock Grazing, Aquatics, Forestry, Wilderness)

1) Conducts resource specific implementation and effectiveness monitoring.
2) Maintains monitoring documentation and forwards documentation to District Fuels Planner if necessary.
3) Reviews burn plans and burn unit maps to determine PDEs are being incorporated into operational plans.

Project Rx Burn Supervisor

1) Conducts all implementation monitoring associated with prescribed burning not conducted by an onsite resource advisor.
2) Ensures monitoring is documented and forwards results to District Fuels Planner if necessary.

Project Resource Advisor

1) Conducts all prescribed fire implementation and effectiveness monitoring not conducted by Project Rx Burn Supervisor or specific resource specialists.
2) Works with ID Team.

3) Works with burn supervisors during burn plan development and prescribed fire implementation if necessary.
4) Ensures monitoring is documented and forwards results to District Fuels Planner if necessary.

Juniper Pretreatment Contracting Officer's Representative

1) Conducts all implementation monitoring associated with mechanical pretreatments not conducted by an onsite resource advisor.
2) Ensures monitoring is documented and forwards results to District Fuels Planner if necessary.

Allotment Administrator (Range)

1) Conducts implementation monitoring to ensure the desired post-fire understory vegetation response is achieved.
2) Maintains monitoring documentation and forwards documentation to District Fuels Planner if necessary.
3) Coordinates and communicates with allotment permittees and adjacent landowners when necessary.
4) Ensures pastures are rested for appropriate periods following prescribed fire treatments and alternative forage is secured.

Results and Documentation

Monitoring results will be utilized to: 1) document fire effects; 2) evaluate success or failure of treatments and PDEs; and 3) assess potential for future treatments and PDEs, considering adaptive management. Monitoring results and documentation will be maintained by individual resource specialists in paper files, electronic databases, and possibly in Geographic Information Systems (GIS).

Results may also be kept in a prescribed fire project file or tracked with the FIREMON Fire Effects Monitoring and Inventory Protocol Database and Analysis Tools by the District Fuels Planner.

North Steens Ecosystem Restoration Project Monitoring Program

Element	Implementation or Effectiveness Monitoring	Objective	Methods	Responsibility	Timing
Noxious Weeds	Effectiveness	Determine if noxious weeds become established in areas of disturbance and control of invasions with herbicide.	Post-treatment surveys. Invasive species identified will be treated with herbicide as described in Environmental Assessment (EA) OR-020-98-05.	Noxious Weed Control Specialist	At 1-year intervals for a period of 3 years after implementation
Noxious Weeds	Implementation	Verify units are treated for noxious weeds.	Monitor underburn activities.	Rx Burn Supervisor	During implementation
Noxious Weeds	Implementation	Verify all vehicles and equipment are cleaned prior to and following operation as per Interagency Standards for Fire and Aviation Operations (Redbook) guidelines.	Apply Interagency Standards for Fire and Aviation Operations (Redbook) during equipment inspections.	Rx Burn Supervisor, Mechanical Pretreatment COR	Immediately after implementation throughout the life of the Project
Cultural Resources	Implementation	Verify appropriate PDEs designed to protect cultural resources are implemented.	Monitor implementation activities such as line construction, prescribed fire ignition, leave island designation, and mop-up with visual observation, photography, and written description.	Archaeologist	During implementation
Cultural Resources	Effectiveness	Evaluate effectiveness of PDEs at protecting cultural resources.	Conduct monitoring visits at a sample of cultural resources (no more than 10% of total sites in planning area) and compare post-burn conditions to conditions described in cultural resource databases. Possibly conduct pre-burn vs. post-burn artifact analyses.	Archaeologist	Within 1-year of treatment, with visits every 3 years if necessary
Rangeland	Implementation	Ensure pastures are rested for two growing seasons following prescribed burn.	Coordination and communication with allotment permittees.	Allotment Administrator	After implementation of prescribed fire
Rangeland – Post-fire understory response	Implementation	Ensure adequate understory seed source is available in prescribed fire treatment units.	Visual estimates, belt transects.	Allotment Administrator	Prior to implementation and/or immediately afterward
Fuels Management	Effectiveness	Determine if fuels in previously cut treatment units are reduced sufficiently to meet treatment objective.	Visually estimated burned areas, permanent FIREMON Plots, delineation with Global Positioning System (GPS).	District Fuels Staff	After implementation

Element	Implementation or Effectiveness Monitoring	Objective	Methods	Responsibility	Timing
Fuels Management	Implementation	Determine if weather conditions and prescribed fire parameters are within the range of variability.	Will monitor any site or time specific weather and fire criteria as identified in the project burn plan.	Rx Burn Supervisor	During implementation
Air Quality	Effectiveness	Determine trajectory and vertical dispersion of smoke plumes.	-Visual observation of smoke plume from ground level. -Assessment of wind speed and direction on day of implementation. -Coordination with Oregon Department of Environmental Quality (DEQ) -Monitor air quality using DEQ equipment stationed in Burns.	Rx Burn Supervisor	During and immediately after implementation
Hazardous Materials	Effectiveness	Ensure all fuel spills are contained without harm to personnel or the environment.	Immediately control and/or clean spill through use of hazmat spill kit. Report large spill (> 42 gallons) to hazmat coordinator.	Rx Burn Supervisor, Mechanical Pretreatment COR	During implementation
Wildlife Biology – Big Game Cover	Implementation	Determine if adequate big game cover remains in treatment units after implementation	Visual estimate.	Wildlife Biologist	During and immediately after implementation
Wildlife Biology – Special Status Species	Implementation	Ensure structures or areas with Special Status Species habitat values are protected in treatment units.	Monitor activities such as line construction, prescribed fire ignition, and mop-up with visual observation, photography, and written description.	Wildlife Biologist	During and after implementation
Aquatics	Effectiveness	Evaluate riparian response to thinning and/or burning.	Conduct greenline monitoring.	Aquatics Specialist	One year prior to treatment to gather baseline data and at 2 years following treatment
Vegetation-Special Status Species	Implementation	Determine if Special Status Species are avoided in treatment units as necessary.	Monitor over time with photo points.	Botanist	During implementation and 2 years after implementation
Vegetation – Juniper Mortality	Effectiveness	Determine if juniper mortality in treatment units meets 70% objective.	Visual estimate.	Rx Burn Supervisor	During implementation and immediately after
Vegetation – Mountain Big Sagebrush Restoration Treatment	Effectiveness	Determine if acreage treatment targets are attained.	Visual estimate, possibly using GPS delineation or aerial observation.	Resource Advisor/ Wildlife Biologist	During or immediately after implementation

Element	Implementation or Effectiveness Monitoring	Objective	Methods	Responsibility	Timing
Vegetation – Low Sagebrush Juniper Encroachment Treatment	Effectiveness	Determine if objective is attained.	Visual estimate, possibly using GPS delineation or aerial observation.	Resource Advisor/ Wildlife Biologist	During or immediately after implementation
Vegetation – Big Game Browse / Hardwood Maintenance Treatment	Effectiveness	Identify blocks of mountain mahogany, bitterbrush, aspen, chokecherry and riparian woody species and determine if acreage treatment target is attained.	Visual estimate, possibly using GPS delineation or aerial observation.	Resource Advisor/ Wildlife Biologist	During or immediately after implementation
Wilderness/ WSAs	Effectiveness	Evaluate effectiveness of PDEs at protecting wilderness values.	Visual estimate.	Wilderness Specialist	During or immediately after implementation

Adaptive Management

Adaptive management is a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure outcomes are met. This learning process builds on current knowledge, observation, and experimentation. A continuous feedback loop allows for mid-course corrections in management to meet planned objectives. In addition, the process provides a model for adjusting objectives as new information and public input arise. As a landscape-level project is implemented, opportunities to fine-tune treatments and approaches increase due to the scale of the project and length of time required until implementation is complete. Experience gained during earlier phases of implementation can result in better management practices. Project implementation flexibility is necessary for addressing and adapting to issues, situations, and new knowledge which can emerge during implementation activities.

The BLM (along with cooperators and private landowners) proposes to study representative habitat types and plant communities and how they may respond to various treatments (see Monitoring, Measurable Objectives).

Objectives:

1 Where feasible, utilize multiple treatment approaches that can be implemented simultaneously to provide parallel learning opportunities, allowing ready comparison and more rapid adaptation over time.
2. Utilize minimum monitoring methodologies to provide before-after comparisons of specific responses to fire and juniper treatments.
3. Support the overall objectives of the AMU/CMPA RMPs.
4. Support the purpose and objectives of the Steen Act.
5. Implement Section 113 (c) (Juniper Management) of the Steens Act through the use of adaptive management practices.

Monitoring is critical to adaptive management. The minimum level of monitoring for this project is as stated in the Monitoring Section above. Additional monitoring other than what is outlined above could be established as additional questions arise or cooperating researchers implement further studies. The data resulting from these studies will be utilized to determine how, when, and where to best apply the range of treatments analyzed. The result will be a strong knowledge of the Project Area responses to treatments.

Public Involvement

Scoping

Numerous comment letters were received during the initial 43-day scoping period. Most letters contained substantive comments, which support the Project in principle. Some members of the public believed management direction in the alternatives did not provide adequate resource protection, while others wanted more emphasis on restoration of water quality and wildlife habitat. Treatments in wilderness, WSAs, and WSR corridors, and concerns about livestock grazing were themes as well. In response to public comments received during the first public scoping opportunity and increased interest in participation, a number of changes were made to the project resulting in the need for preparation of an EIS. An additional 15-day scoping period was offered for further public involvement. Five letters were received addressing ten issues.

Draft Environmental Impact Statement

On February 10, 2006, the Environmental Protection Agency's (EPA) Notice of Availability of the North Steens Project DEIS was published in the *Federal Register* initiating a 45-day public comment period on the DEIS. A news release was sent to media groups including the Burns Times-Herald and KZZR Radio announcing availability of the DEIS. Approximately 118 hard copies and 125 compact disc copies of the DEIS were sent to individuals, agencies, and organizations. A newsletter was also distributed to names on the mailing list announcing

the availability of the DEIS as well as announcing the public comment period and meeting dates. During the 45-day public comment period, public meetings were held in Burns and Diamond, Oregon, with a total of 13 attending. Numerous comments were received and were reviewed by BLM specialists and cooperating agencies. Changes were made between the Draft and Final EIS based on public comments and internal review. The BLM continued to involve the SMAC and cooperating agencies throughout the process.

Final Environmental Impact Statement

A 30-day availability period was offered on the FEIS beginning on August 17, 2007, following publication of EPA's Notice of Availability in the *Federal Register*. A Preferred Alternative was identified based on a recommendation provided by the SMAC. A news release was sent to media groups including the Burns Times-Herald and KZZR Radio announcing availability of the FEIS. Approximately 167 hard copies and 10 compact disc copies were mailed to individuals, agencies, and organizations on the mailing list. The FEIS was also made available on the BLM Web site at www.blm.gov/or/districts/burns/plans/index.php.

Consultation with U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is a cooperating agency through a signed Memorandum of Understanding (MOU) and has been involved in the EIS process since the beginning. Consultation with the USFWS is required on projects where species on the Federally Threatened and Endangered Species list may be affected. The FEIS stated the bald eagle was listed as a Threatened species under the Endangered Species Act. The bald eagle was recently removed from the Threatened and Endangered species list; therefore, consultation pursuant to the Endangered Species Act is no longer required for the bald eagle. There are no other known Federally listed species within the Full Treatment area. Treatment within Steens Mountain Wilderness will require additional NEPA analysis and may require consultation at that time for Lahontan cutthroat trout (Threatened Species).

Tribal Participation

Federal law and regulations require coordination and when necessary, formal consultation with American Indian tribes who have an interest in project proposals. The Burns Paiute Tribe signed an MOU with the BLM to become a cooperating agency for the EIS.

Other Participation

Harney County, Oregon Department of Fish and Wildlife (ODFW), USFWS – Ecological Services and Malheur National Wildlife Refuge, Oregon Department of Environmental Quality, Burns Paiute Tribe, Harney Soil and Water Conservation District, and EOARC are cooperating agencies in this effort. Numerous meetings were held and coordination was conducted during the EIS process.

Implementation

The North Steens Project will include implementation of management actions across the Project Area that will direct plant communities toward a desirable condition through return of the historic fire regime. Actions will center on lessening effects of potential severe wildfires by reducing fuels and curtailing juniper expansion in mountain big sagebrush, low sagebrush, quaking aspen, mountain mahogany, old-growth juniper, riparian plant communities, and Wyoming big sagebrush. This is a multiyear project, and each year the extent of implementation will fluctuate depending on variables such as staff limitations, resource considerations and climatic and operational conditions.

Sideboards for coordination and cooperation will be established prior to project implementation, and when possible, these efforts will establish treatment units based on geographic and vegetative features rather than ownership lines. Private landowner cooperation is strictly voluntary and all management activities on private land will be conducted in accordance with landowner management objectives.

The Project Area contains numerous project units (see Map 2: Project Units and Land Administration). Many factors influence the timing, location and objectives of treatments. Factors include:

1. Has the landowner received outside funding for treatment of expansion juniper?
2. Does the area contain closed canopy juniper woodlands?
3. Are the affected parties willing to enter into a Cooperative Management Agreement?
4. What other resource priorities and concerns are to be considered?
5. Have other treatments or wildfire recently occurred within or adjacent to the Project Unit?
6. Will treatment of a specific project unit contribute to undesirable cumulative effects?
7. Are there any budgetary and operational constraints?

These factors and others will be considered by the Field Manager who will coordinate implementation efforts with the on-the-ground Project Implementation Lead. Final decision factors for implementation timing and location will include PDE recommendations from the ID Team who will meet every January; the Field Manager makes the determination as to which PDEs apply to a given treatment or burn plan.

Project unit acreage objectives will also be determined by the Field Manager based on recommendations of an ID team and contained in the burn plan for that specific project unit.

Manager's Recommendation

Having considered a full range of alternatives, associated effects, and public input, I recommend adoption and implementation of the Preferred Alternative for the North Steens Ecosystem Restoration Project.

/signature on file/ _____ September 26, 2007 _____

Karla Bird
Andrews Resource Area Field Manager — Date

District Manager Approval

I approve the North Steens Ecosystem Restoration Record of Decision as recommended. This document meets the requirements for a Record of Decision as provided in 40 CFR Part 1505.2.

/signature on file/ _____ September 26, 2007 _____

Dana R. Shuford
Burns District Manager — Date

Glossary

A

Adaptive management - A type of natural resource management in which decisions are made as part of an ongoing process. Adaptive management involves testing, monitoring, evaluation, and incorporating new knowledge into management approaches based on scientific findings and the needs of society. Results are used to modify management policy.

Allotment - A specific portion of public land allocated for livestock grazing, typically with identifiable or fenced boundaries and permitted for a specified number of livestock.

B

Best Management Practices (BMPs) B A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

Biological soil crust - Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

Broadcast burning - Prescribed fire is utilized through an entire area identified in the burn plan using a prescription designed to achieve specific habitat and fuel loading objectives.

Bureau of Land Management (BLM) - Government agency with the mandate to manage Federal lands under its jurisdiction for multiple uses.

C

Canopy - In a forest, the branches from the uppermost layer of trees; on rangeland, the vertical projection downward of the aerial portion of vegetation.

Condition Class - A representation of the degree of departure from the historic/wildfire regime. Broken into three classes (see Table 3.6 in FEIS).

Consultation - (1) An active, affirmative process that (a) identifies issues and seeks input from appropriate American Indian governments, community groups, and individuals; and (b) considers their interests as a necessary and integral part of the BLM's and U.S. Forest Service's decision-making process. (2) The Federal Government has a legal obligation to consult with American Indian Tribes. This legal obligation is based in such laws as the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, and numerous other Executive Orders and statutes. This legal responsibility is, through consultation, to consider Indian interests and account for those interests in the decision. (3) The term also refers to a requirement under Section 7 of the ESA for Federal agencies to consult with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service with regard to Federal actions that may affect listed threatened and endangered species or critical habitat.

Corridor (landscape) - Landscape elements that connect similar patches of habitat through an area with different characteristics. For example, streamside vegetation may create a corridor of willows and hardwoods between meadows or through a forest.

D

Disturbance - Refers to events that alter the structure, composition, or function of terrestrial or aquatic habitats. Natural disturbances include, among others, drought, floods, wind, fires, wildlife grazing, insects, and pathogens. Human-caused disturbances include actions such as timber harvest, livestock grazing, roads, and the introduction of exotic species.

E

Early Successional Stage - A successional stage, or collection of stages, that occur immediately following a disturbance.

Ecosystem - A complete, interacting system of living organisms and the land and water that make up their environment; the home places of all living things, including humans.

Ecosystem management - The use of a "whole-landscape" approach to achieve multiple-use management of public lands by blending the needs of people and environmental values in such a way that these lands represent diverse, healthy, productive, and sustainable ecosystems.

Endangered species - Any species defined under the Endangered Species Act (ESA) as being in danger of extinction throughout all or a significant portion of its range. Listings are published in the *Federal Register*.

Environmental Assessment (EA) - One type of document prepared by Federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed Federal actions which are not expected to have significant effects on the human environment.

Environmental Impact Statement (EIS) - One type of document prepared by Federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed major Federal actions expected to have significant impacts on the human environment.

F

Federal Land Policy and Management Act of 1976 (FLPMA) - Law mandating that the BLM manage lands under its jurisdiction for multiple uses. Establishes guidelines for its administration; and provides for the management, protection, development, and enhancement of the public lands, among other provisions.

Fire Management Plan (FMP) - A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fire regime - The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire across a landscape.

Fire return interval - The number of years between fire events for a specified area.

Forb - Any herbaceous plant that is not a grass or a grass like species. Broad-leafed plants; includes plants that commonly are called weeds or wildflowers.

G

Geographic Information System (GIS) - An information processing technology to input, store, manipulate, analyze, and display data; a system of computer maps with corresponding site-specific information that can be combined electronically to provide reports and maps.

H

I

Incident commander - Individual responsible for the management of all incident (fire) operations.

Interim Management Policy for Lands under Wilderness Review (WSA IMP) - Policy for managing public lands under wilderness review. Section 603(c) of the FLPMA states: "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable laws in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."
Intermittent stream B A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

J

Jackpot Burning – Accumulations of fuels are burned while other vegetation remains unburned. This method would be implemented in the late fall, winter, or early spring when the potential for fire spread is low. Fuels could be piled by hand or machine.

K

L

Landscape level - In each allotment or pasture in the Project Area, there are situations that individually would warrant action by the BLM. By considering a wider Project Area, the BLM ensures individual actions are considered, evaluated, and coordinated with other actions in the vicinity in the context of all activities addressing the wider problem of juniper expansion.

Landscape scale - For this EIS purpose the 336,000-acre Project Area as opposed to smaller individual projects.

Late Successional Stage - A successional stage, or collection of stages, that occur many years after disturbance. Often related to climax or a stable, self-perpetuating plant community.

M

Management direction - A statement of goals and objectives, management prescriptions, and associated standards and guidelines for attaining them.

Mechanized equipment - Any machine that uses or is activated by either a living or nonliving power source. This includes, but is not limited to, chain saws, power drills, aircraft, generators, motor vehicles, snow machines, etc. The term does not include shavers, wristwatches or clocks, flashlights, cameras, camp stoves, cell phones, radio transmitters/receivers, GPS units or other similar small hand held or portable equipment.

Mechanized vehicle (for OHV) - Any vehicle, device, or contrivance that has moving parts for moving people or material in or over land, water, snow, or air. This includes, but is not limited to, sailboats, sailboards, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs, horses, or other pack stock, skis, snowshoes, nonmotorized river craft, sleds, travois, or similar devices without moving parts.

Mid-transitional juniper woodland – Juniper has become codominant in a specific plant community or site.

Mitigation - Measures designed to counteract environmental impacts or to make impacts less severe.

Monitoring - The periodic and systematic collection of resource data to measure progress toward achieving objectives.

Monitoring and evaluation - The collection and analysis of data to evaluate the progress and effectiveness of on-the-ground actions in meeting resource management goals and objectives.

Motor vehicle - Any vehicle, device, or contrivance which is self-propelled and is used for moving people or materials in or over land, water, snow, or air and is powered by a motor or engine.

Motorized equipment - Any machine that uses or is activated by a motor, engine, or other power source. This includes, but is not limited to, chain saws, power drills, aircraft, generators, motor vehicles, snow machines, etc. The term does not include shavers, wristwatches or clocks, flashlights, cameras, camp stoves, cell phones, radio transmitters/receivers, GPS units or other similar small hand held or portable equipment.

Multiple use - Management of public land and its resources to best meet various present and future needs of the American people. This means coordinated management of resources and uses to assure the long-term health of the ecosystem.

N

National Environmental Policy Act of 1969 (NEPA) - Law requiring all Federal agencies to evaluate the impacts of proposed major Federal actions with respect to their significance on the human environment.

National Wildlife Refuge (NWR) - An area administered by the U.S. Fish and Wildlife Service for the purpose of managing certain fish or wildlife species.

Natural wildland fire – Lightning-ignited fire in natural vegetation.

Naturalness (a primary wilderness value) - An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Noxious weed - A plant specified by law as being especially undesirable, troublesome, and difficult to control. A plant species designated by Federal or State law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States. According to the Federal Noxious Weed Act (Public
Law 93-639), a noxious weed is one that causes disease or has other adverse effects on man or his environment and, therefore, is detrimental to the agriculture and commerce of the United States and to the public health.

O

Objectives (management) - A description of a desired condition for a resource. Objectives can generally be quantified and measured and, where possible, have established timeframes for achievement.

Off-Highway Vehicle (OHV) - Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding the following: 1) any nonamphibious registered motorboat; 2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly permitted by the authorized officer, or otherwise officially approved; 4) vehicles in official use; and 5) any combat or combat support vehicle when used in times of national defense emergencies.

Old-growth juniper – Juniper that has certain morphological features or was growing prior to 1870. Old-growth juniper usually occurs in specific areas where wildland fires are less common (rocky areas with low fuels).

P

Perennial - A plant that lives for three or more years.

Prescribed burning - Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions which allow the fire to be confined to a predetermined area and at the same time to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

Prescribed fire - Any fire ignited by management actions to meet specific objectives. A written and approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met prior to ignition. The introduction of fire to an area under regulated conditions for specific management purposes (usually vegetation manipulation).

Prescribed natural fire - A naturally-ignited fire that is managed for resource benefits. Currently called Wildland Fire Use.

Prescription - Written statement defining objectives to be attained, as well as measurable criteria which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations under which the fire will be allowed to burn.

Primary wilderness values - The primary or key wilderness values described in the Wilderness Act by which WSAs and wildernesses are managed to protect and enhance the wilderness resource. Values include roadlessness, naturalness, solitude, primitive and unconfined recreation, and size.

Primitive and unconfined recreation (a primary wilderness value) - nonmotorized and undeveloped types of outdoor recreation activities. Refers to wilderness recreation opportunities such as nature study, hiking, photography, backpacking, fishing, hunting, and other related activities. Does not include the use of motorized vehicles, bicycles, or other mechanized means of travel.

Project units – Identified subdivisions of the North Steens Ecosystem Restoration Project Area.

Public lands - Any land or interest in land owned by the citizens of the United States and administered by the Secretary of the Interior through the BLM as defined in FLPMA.

Q

R

Rangeland - Land on which the potential natural vegetation is predominantly grasses, grass like plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range site - An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Record of Decision (ROD) - An official document in which a deciding official states the alternative that will be implemented from a prepared FEIS.

Recreation site - An area where management actions are required to provide a specific recreation setting and activity opportunities, to protect resource values, provide public visitor safety and health, and/or to meet public recreational use demands and recreation partnership commitments. A site may or may not have permanent facilities.

Resilience – Ability of a site to recover to potential native vegetation following perturbation or disturbance.

Resource advisor - Resource specialist responsible to the incident commander for gathering and analyzing information concerning values-at-risk that may be impacted by fire or fire suppression activities.

Resource Area (RA) - The "on-the-ground" management unit of the BLM comprised of BLM-administered land within a specific geographic area.

Resource Management Plan (RMP) - Current generation of land use plans developed by the BLM under the Federal Land Policy and Management Act. Replaces the older generation Management Framework Plans. Provides long-term (up to 20 years) direction for the management of a particular area of land and its resources, usually corresponding to a BLM Resource Area.

Riparian area - Area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of flood plains and valley bottoms that support riparian vegetation.

Risk assessment - Assessing the chance of fire starting, naturally- or human-caused, and its potential risk to life, resources and property.

Road - Constructed or evolved transportation route that is normally maintained for regular use (except during periods of closure) that can be reasonably and prudently driven by motorized or mechanized vehicles.

Route - A linear ground transportation feature such as a way or road.

S

Scenic river - A river, or section of a river, that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

Scoping - The process of identifying the range of consideration, issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land-use planning document. It involves both internal and external, or public, involvement.

Section 202 lands - Lands being considered for wilderness designation under Section 202 of the Federal Land Policy and Management Act of 1976.

Seral - Refers to the sequence of transitional plant communities during succession. Early-seral refers to plants that are present soon after a disturbance or at the beginning of a new successional process (such as seedling or sapling growth stages in a forest); mid-seral in a forest will refer to pole or medium sawtimber growth stages;
late- or old-seral refers to plants present during a later stage of plant community succession (such as mature and old forest stages).

Seral stage - The developmental phase of a forest stand or rangeland with characteristic structure and plant species composition. The rated departure of a plant community from a described PNC for a specific ecological site.

> Low-seral stage is an existing plant community which is defined as 0.0 to 25.0 percent comparability to the defined PNC; Mid-seral stage is an existing plant community which has 26.0 to 50.0 percent comparability to the PNC;
>
> Late-seral stage is 51.0 to 75.0 percent comparable to the PNC; PNC is an existing plant community with 76.0 to 100.0 percent comparability to the defined PNC.

Slope - The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20.0 percent is a drop of 20 feet in 100 feet of horizontal distance.

Solitude (a primary wilderness value) - The state of being alone or remote from habitations; a lonely, unfrequented, or secluded place. The intent is to evaluate the opportunity for solitude in comparison to habitations of people.

Special Status Species - Plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable to activities which may affect their survival. Lists of Special Status Species are prepared by

knowledgeable specialists through the State of Oregon; the BLM prepares a list of State sensitive species predominantly based on the list prepared biennially by the Oregon Natural Heritage Program (ONHP).

Stand - A community of trees occupying a specific area and sufficiently uniform in species, age, spatial arrangement and condition as to be distinguishable from trees on surrounding lands.

Stream channel - The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.
Succession - A predictable process of changes in structure and composition of plant and animal communities over time. Conditions of the prior plant community or successional stage create conditions that are favorable for the establishment of the next stage. The different stages in succession are often referred to as "seral stages" (see Seral).

Successional Stage - A collection of plants and animals that occupy a site at a specific time under a specific set of conditions.

Sustainability - (1) meeting the needs of the present without compromising the abilities of future generations to meet their needs; emphasizing and maintaining the underlying ecological processes that ensure long-term productivity of goods, services, and values without impairing productivity of the land. (2) In commodity production, refers to the yield of a natural resource that can be produced continually at a given intensity of management.

T

Trend - The direction of change in ecological status observed over time. Trend is described as toward or away from the PNC, or as not apparent.

U

Upland (geology) - Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

V

Visual Resource Management (VRM) Objectives

> Class I - The objective of this classification is to preserve the existing character of the landscape. This class provides for natural ecological changes and limited management activity. The level of change should be very low and must not attract attention. Class I is assigned to those areas where a management decision has been made to preserve a natural landscape.
>
> Class II - The objective of this classification is to retain the existing character of the landscape. The level of change to landscape characteristics should be low. Management activities may be seen but should not attract the attention of a casual observer. Any changes must conform to the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
>
> Class III - The objective of Class III is to partially retain the existing character of the landscape. Moderate levels of change are acceptable. Management activities may attract attention but should not dominate the view of a casual observer. Changes should conform to the basic elements of the predominant natural features of the characteristic landscape.
>
> Class IV - The objective of Class IV is to provide for management activities that require major modification of the landscape. These management activities may dominate the view and become the focus of viewer attention; however, every effort should be made to minimize the impact of these projects by carefully locating activities, minimizing disturbance, and designing the projects to conform to the characteristic landscape.

W

Way - A travel route in a WSA maintained solely by the passage of vehicles which has not been improved and/or maintained by mechanical means to ensure relatively regular and continuous use.

Wild river - A river or section of a river that is free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted.

Wildfire – An unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland fire – Any nonstructure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.

Wildland fire suppression – Extinguishment of a wildland fire utilizing the appropriate management response.

Wildland fire use – The application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in predefined designated areas outlined in Fire Management Plans. Formally called Prescribed Natural Fire.

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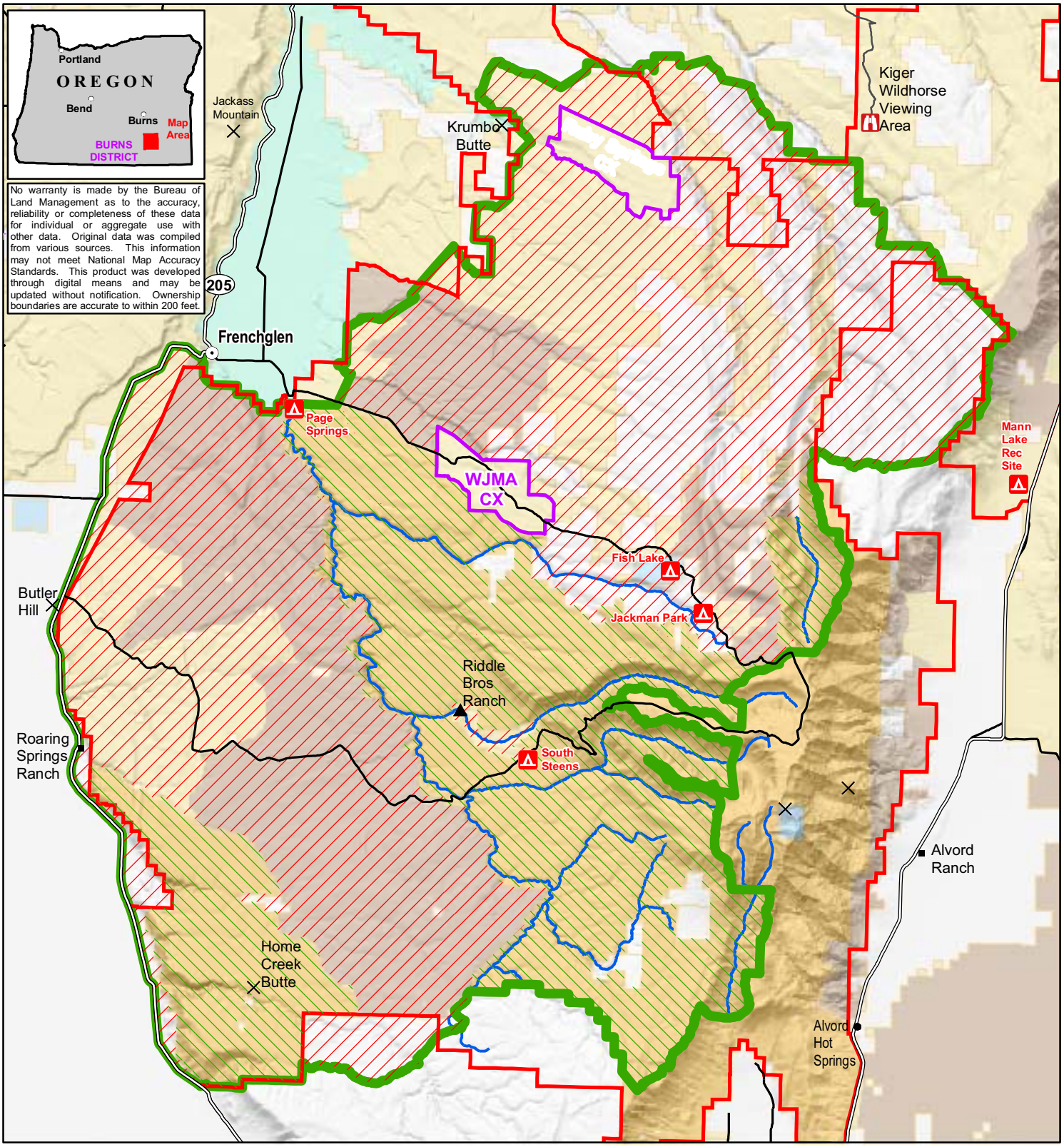


Treatments
- Continuation of Current Management Area
- Full Treatment Area
- Area Analyzed under Separate Process
- North Steens Project Area Boundary
- Paved Road
- Non-Paved Road
- Wild and Scenic River

Map 1: Preferred Alternative

- Coop. Mgmt & Protection Area

Land Administration
- Bureau of Land Management
- BLM Wilderness Study Area
- BLM Wilderness
- State
- U.S. Fish and Wildlife
- Private

Private lands are managed in accordance with private landowners management objectives. Cooperation is strictly voluntary.

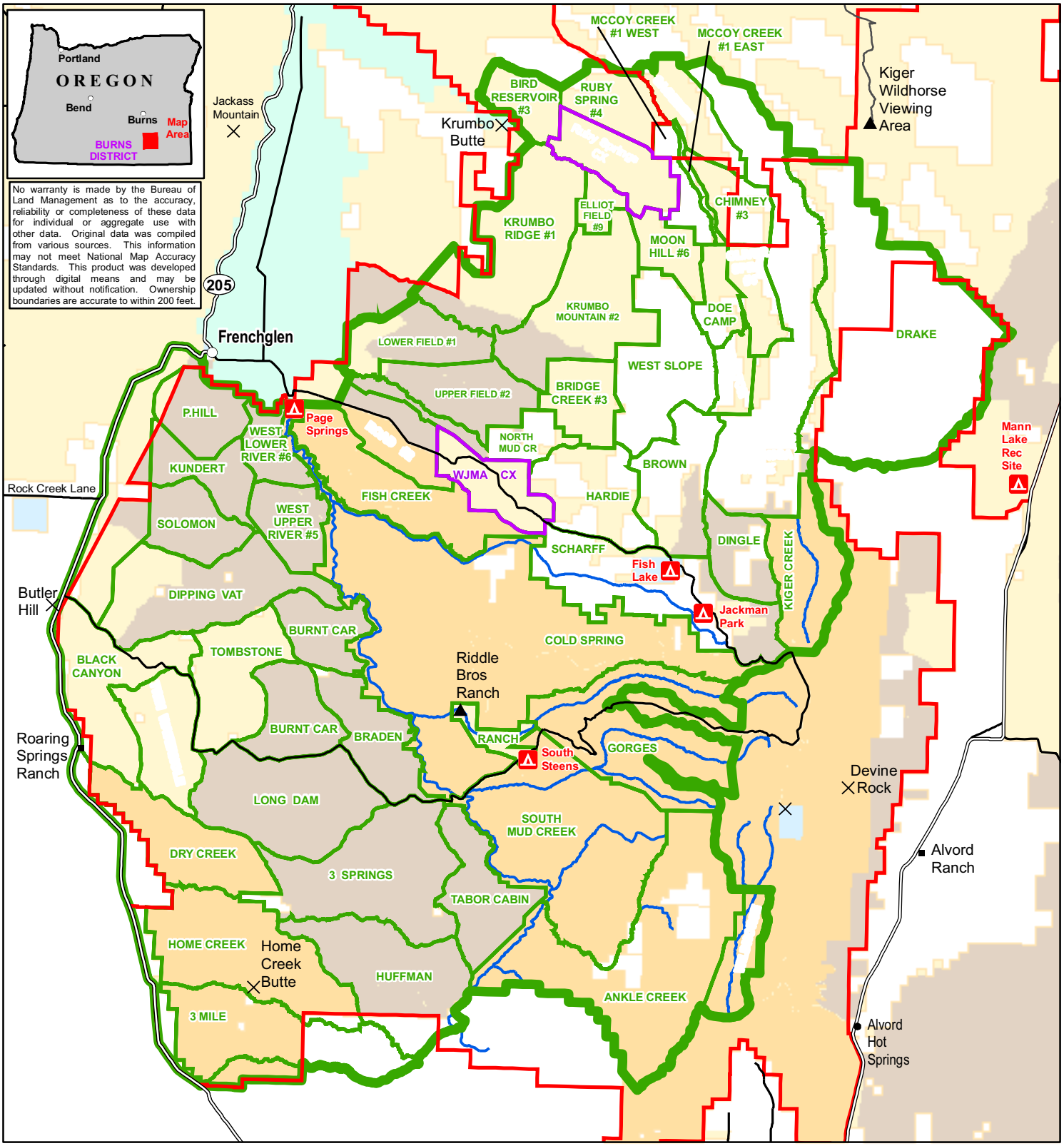
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

BURNS DISTRICT

North Steens Project
Record of Decision
August 2007

2.5 1.25 0 2.5 Miles

Map1NsteensROD



Project Unit

Area Analyzed under Separate Process

Paved Road

Non-Paved Road

Wild and Scenic River

Coop. Mgmt & Protection Area

North Steens Project Area Boundary

Land Administration

Bureau of Land Management

BLM Wilderness Study Area

BLM Wilderness

State

U.S. Fish and Wildlife

Private

US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

BURNS DISTRICT

North Steens Project
Record of Decision
August 2007

2.5 1.25 0 2.5 Miles

Map 2: Project Units and Land Administration

Map2NSteensROD